

Partners *in* Discovery



UNDERSTANDING **MIGRAINE**

An Important and Underfunded Disorder of the Nervous System

Migraine is not just a headache, but a complex neurological event that may cause a wide variety of symptoms, according to Andrew Charles, M.D., Professor of Neurology and Director, UCLA Headache Research and Treatment Program at the David Geffen School of Medicine at UCLA.

One of the most common of all disorders, migraine was previously thought to be caused primarily by constriction and dilation of blood vessels in and around the brain. More recent studies indicate that migraine is far more than simply a problem with blood vessels, but rather a complex event caused by fluctuations in brain chemicals and abnormal electrical activity in specific brain regions. It is currently viewed as an episodic disorder of brain excitability, akin to epilepsy and episodic movement disorders.

CONT. PG 04

We Will Succeed



John C. Mazziotta, M.D., Ph.D.
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Three years ago an acquaintance of mine—the father of my daughter’s best friend in high school—called me to say that he was having what he believed to be neurologic symptoms and wanted my help. A few days ago I attended his funeral. He had amyotrophic lateral sclerosis (ALS) sometimes called Lou Gehrig’s Disease. In a period of three years he went from a marathon runner to someone who had great difficulty dialing a cell phone. ALS is a neurodegenerative disorder that affects, among others, the cells that provide input to the muscles of the body. It leaves the mind and sensory systems spared, but its relentless course results in progressive weakness and, ultimately, difficulty breathing.

Over the course of his illness, my friend and I got together many times, particularly in recent months. His incredible determination, upbeat personality, and resilient spirit were ever-present. He asked me many questions about ALS and other neurologic diseases, as well as the research at UCLA and elsewhere aimed at trying to understand and solve these disorders.

There currently is no cure for ALS, although there are treatments that can slow its course. The disease is progressive, relentless, and invariably fatal. Such was the course for my friend. As you might expect, he was frequently frustrated by the fact that effective treatments did not exist and he systematically tried every experimental clinical approach available, but to no avail.

The number of people with neurodegenerative diseases is increasing as the population ages. With this increase in prevalence, there is a parallel increase in the pressure to find effective treatments and, ultimately, cures for these disorders. ALS, like Alzheimer’s and Parkinson’s diseases, is being aggressively studied by our talented faculty at UCLA and by others throughout the world. Every week brings new information useful to understanding these disorders and to finding safe and effective treatments. The urgency of this process was graphically demonstrated to me as I watched my friend failing in recent weeks. We must succeed in this challenge. The faculty and I are committed to do everything possible to make a difference in this effort and we rely on your support and partnership in finding effective answers so that our friends and families will not meet the same fate as my friend.

“The number of people with neurodegenerative diseases is increasing as the population ages.”



Above: Dr. Jeff Bronstein with Judie and Frank Fenton

Right: Judie and Frank’s son, Steven Fenton, member of the Beverly Hills Unified School District board; Dr. Bronstein; The Honorable Stephen Webb, former mayor of Beverly Hills; Dave Snowden, Beverly Hills Chief of Police

Photos: Miles Lee



Friends of the Fentons

Turn Out to Support UCLA Neurology Movement Disorders

About 60 close friends of The Honorable Frank Fenton, former Mayor of Beverly Hills, and his wife, Judie, attended a recent educational and fundraising event hosted by the couple at the Montage Beverly Hills in support of UCLA’s Dr. Jeff Bronstein and his work on Parkinson’s Disease and the ML Multiple System. The evening resulted in numerous gifts, including substantial ones from private foundations such as the Joseph Drown Foundation, The John W. Carson Foundation, and the Anita May Rosenstein Foundation. ■



“The goal of the study is to develop a comprehensive Alzheimer’s biomarker profile which can delineate those at risk long before clinical symptoms appear.”

A Blood Test for Alzheimer’s Disease?

Alzheimer’s researchers predict that one day soon, every 50-year-old undergoing an annual physical will have a simple blood test for early signs of Alzheimer’s disease (AD). This idea is more than fantasy; it is part of the scientific approach to Alzheimer’s disease by researchers at UCLA’s Mary S. Easton Center for Alzheimer’s Disease Research.

Thanks to the funding by two private donors, The Lincy Foundation and UCLA alumnus Jim Easton, an innovative approach to AD diagnosis has been launched. Recently, The Lincy Foundation committed to funding a progressive research proposal, “Towards Earlier Biomarker Diagnosis of Alzheimer’s Disease,” working with investigators partially funded under the Jim Easton Consortium for Alzheimer Drug Discovery and Biomarker Development (Easton Consortium). The Lincy study will focus on protein analysis—examining the relationship between blood DNA, imaging biomarkers, and protein patterns in both humans and mice. The goal of the study is to develop a comprehensive Alzheimer’s biomarker profile which can delineate those at risk long before clinical symptoms appear.

Researchers involved in this innovative approach are: Liana Apostolova, M.D., who has developed new techniques for analyzing brain scans that allow us to predict which person with mild memory loss will progress to AD type of dementia; Karen Gylys, Ph.D., and Greg Cole, Ph.D., who will conduct the protein analysis of blood and cerebral spinal fluid; Harry Vinters, M.D., who will conduct novel autopsy evaluation of human tissue in the hippocampus and cerebral cortex, as well as molecular evaluation of human cerebrospinal fluid (CSF) and plasma in AD; Hong Wei Dong, M.D., Ph.D., who will provide comparisons between genes in scientific model AD and human AD. This will provide insight into genes to be studied in humans, as well as the reliability of the scientific model for human disease. Changes in protein level will be integrated with MRI analysis to provide a technologically advanced manner of investigating the pathological progression of Alzheimer’s disease.

The Lincy Foundation has been a strong supporter of UCLA Neurology for many years and two officers of The Lincy Foundation recently attended a research briefing by investigators of the UCLA Easton Center. Thanks to the generous philanthropy of The Lincy Foundation, researchers can take the next step to a simple blood test for Alzheimer’s disease. ■

Alzheimer’s Disease Treatment Development Program

Within UCLA’s Mary S. Easton Center for Alzheimer’s Disease Research, the Katherine and Benjamin Kagan Alzheimer’s Disease Treatment Development Program is focused on clinical testing of new therapies for Alzheimer’s. Two exciting and cutting-edge studies have recently begun under program director Joshua Grill, PhD.

The first study, testing a surgically-delivered gene therapy as a treatment for Alzheimer’s disease, is being done in collaboration with Dr. Antonio DeSalles of UCLA Neurosurgery. The gene is for a protein called nerve growth factor (NGF), which is critical to nerve cell survival in the developing brain and has long been believed to hold therapeutic potential in the aged and diseased brain. The gene is delivered directly into a brain region severely affected by the disease, in hopes of causing the nerve cells in that part of the brain to stay alive and healthy. UCLA is one of only 11 universities participating in this study, which is funded by the National Institute on Aging.

The Kagan Program also has recently begun exciting Phase II study of a medication known as a gamma secretase inhibitor. Gamma secretase is an enzyme critical to the production of the brain protein, beta amyloid, believed to be the primary culprit in Alzheimer’s disease. By inhibiting the activity of gamma secretase, researchers in the Kagan program hope to slow or halt production of beta amyloid, thus arresting Alzheimer’s disease progression.

This particular study is unique because it is being conducted in persons who do not meet clinical criteria for Alzheimer’s disease. Instead, only people with very mild memory impairments are eligible for participation. As such, this study represents a major step toward testing investigational therapies for their ability to prevent Alzheimer’s disease. The study is sponsored by Bristol-Meyers Squibb.

If you or someone you know is interested in clinical trials for Alzheimer’s disease, please call the UCLA Mary S. Easton Center for Alzheimer’s Disease Research at (310) 794-6039. ■

Awards and Accolades

Liana Apostolova, M.D., Assistant Professor of Neurology and Assistant Director, Structural Neuroimaging Core, UCLA’s Mary S. Easton Center for Alzheimer’s Disease Research, was awarded the American Academy of Neurology’s (AAN) Research Award in Geriatric Neurology during the 62nd annual AAN Meeting in Toronto, Canada. Dr. Apostolova was recognized for her outstanding achievements in Geriatric Neurology research. The recognition includes a certificate of recognition and \$500 monetary prize. Dr. Apostolova’s research focuses on the development of early and presymptomatic biomarkers for Alzheimer’s Disease and other dementias. Dr. Apostolova has also been recognized as the Tichi Wilkerson-Kassel Dementia Fellow (2003-2005) and in 2007 was the recipient of the Turken Award and Endowment.

The American Academy of Neurology, established in 1948, is an international professional association of more than 22,000 neurologists. Their mission is to promote the highest quality patient-centered neurologic care and enhance member career satisfaction. ■

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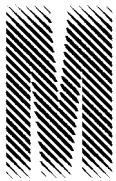
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UNDERSTANDING MIGRAINE



igraine continues to be an elephant in the room of medicine: massively common and a heavy burden on patients and their healthcare providers, yet the recipient of relatively little attention for research, education, and clinical resources. Its visibility is gradually increasing, however, as advances in genetics, imaging, epidemiology, and pharmacology produce a more definitive understanding of the condition, and identify more specific and effective treatments. Rapid evolution of concepts regarding its prevalence, pathophysiology, and clinical management is leading to growing recognition of migraine as a fundamentally important disorder of the nervous system.

Andrew Charles M.D., *Annals of Neurology* 2009; Vol 65

CONT. FROM COVER

"Brain imaging has shown that spectacular things are happening in the brain during headache," says Charles, explaining that specialized brain scans of patients having migraine attacks show waves of abnormal activity that spread across the surface of the brain (the cortex), as well as excitation of nerve centers deep within the brain (the brainstem). "Recent research has focused on treatment that works not by constricting blood vessels, but rather by reducing the patterns of abnormal brain cell activity that is believed to underlie migraine," he says. "Essentially, with migraine, the brain is out of balance. We want to restore equilibrium through any means we can."

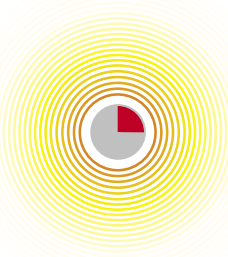
While the disorder commonly runs in families and many families carry genes that cause migraine, genes are only part of the picture. Migraine can be triggered by a variety of life events, including stresses and head injury. "We're now seeing soldiers return from Iraq and Afghanistan with migraine. The Department of Defense (DOD) is starting to pay attention to the overlapping circles of post-traumatic stress (PTS), brain trauma, and migraine, and is starting to identify migraine sufferers early on. It has highlighted chronic headache as a priority to address, because it is so common and debilitating," states Charles. He is collaborating with Peter Goadsby at University of California at San Francisco to create a longitudinal structure to care for servicemen and women with headache in order to understand when and how to treat people in theaters of war and when they come home.

Although migraine is not typically a life-threatening problem, it is commonly incapacitating. "This disorder takes people out in the prime of their lives," says Charles. "It affects people's productivity at work, their ability to interact with friends and family, and their ability to enjoy their time off." Despite this, Charles says it is a challenge to get people, particularly those without headache, to think about it as a significant cause of disability. "Migraine has no outward manifestation. Those who haven't experienced it, including physicians, are often skeptical that someone can be suffering so severely when there are no external signs that it is occurring. As a result, many migraine patients are reluctant to talk about their condition."

Some common triggers for migraine are skipped meals, irregular caffeine intake, irregular sleep, the menstrual cycle in women, changes in the weather, air travel, and emotional or physical stress. Migraine patients are particularly sensitive to changes in their environment or in their own body function. Obviously, some of these triggers are beyond patients' control; but some simple modifications in lifestyle can have a significant impact on headache, Charles says. "The main theme for the headache lifestyle is consistency. Migraine patients should try to eat regularly, keep a

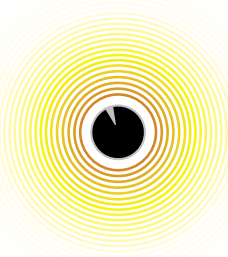


Fast Facts on Headache Disorders



25% of Women

At least 25% of women (1 in 4) and 8% of men have migraine.



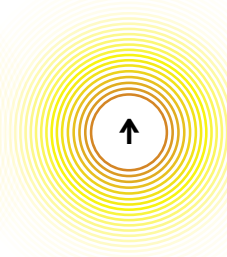
90% of Americans

Headache disorders are the most prevalent neurological disorders, affecting more than 90% of all Americans.



\$31 Billion

Headache disorders are among the most costly and disabling medical conditions, with the nation's annual direct and indirect economic costs exceeding \$31 billion.



Increased Risk

Migraine significantly increases the risks for other serious diseases. More women suffering from migraine with aura die annually from cardiovascular diseases than women who do not have migraine.



NIH Underfunded

Underfunding of NIH research on headache disorders has denied millions of affected Americans equal access to the benefits of publicly funded research programs and the promise of effective headache care.

regular sleep schedule, and have caffeine regularly or not at all."

Some triggers may be confusing, because there may be a long delay between when the trigger happens and when the migraine happens. For example, a patient may skip lunch, and then later in the evening develop a migraine that was "set off" by skipping a meal earlier in the day. Similarly, many patients do not experience migraine during a time of emotional stress, but afterward.

In addition to experiencing pain, migraine patients are sensitive to light, sound, smell, and touch during an attack. Charles says that there has recently been an increased effort to quantitatively characterize such sensory changes.

According to Charles, the NIH has never adequately funded research on headache disorders. "There is no NIH intramural research program on headache disorders, nor is there an NIH study section for grant review wholly devoted to pain research—let alone headache disorders, and migraine has very rarely been prioritized for NIH extramural research funding."

Unfortunately, the inattention to headache disorders on the part of NIH has discouraged scientists from pursuing research in this field—hence, what has been limited development of new therapies. Seminal research studies leading to novel pharmaceutical therapies are typically performed in publicly-funded laboratories, Charles explains. "Active headache research scientists comprise a very small community and the development of innovative effective therapies for headache disorders is meager. There are very few quality headache grants submitted for NIH funding."

There are, however, some encouraging exceptions to this trend. Dr. K.C. Brennan, an assistant professor in the Department of Neurology and Dr. Charles's colleague in the Headache Research and Treatment Program, has received two NIH grants to support his work studying basic migraine mechanisms. One of these projects is investigating the role of male and female hormones in migraine mechanisms, and the other is investigating the relationship between migraine and stroke. "Dr. Brennan's work is providing a new window into the changes in the brain that lead to a migraine, and is identifying opportunities for some very novel therapies," says Charles.

Investigators in the UCLA Headache Research and Treatment Program are focused on translating basic research findings into new approaches for treatment. "As our understanding of migraine advances, we have been able to identify new targets for treatment," Charles says. One example is the medication memantine (Namenda). Memantine inhibits the waves of brain activity that are believed to be a trigger for migraine. "Because it was already on the market for the treatment of memory and cognition problems due to Alzheimer's disease, and known to be well tolerated, we have begun to use it to treat patients with migraine. We have now treated hundreds of patients with

"That no one dies of migraine seems to someone deep in an attack as an ambiguous blessing."

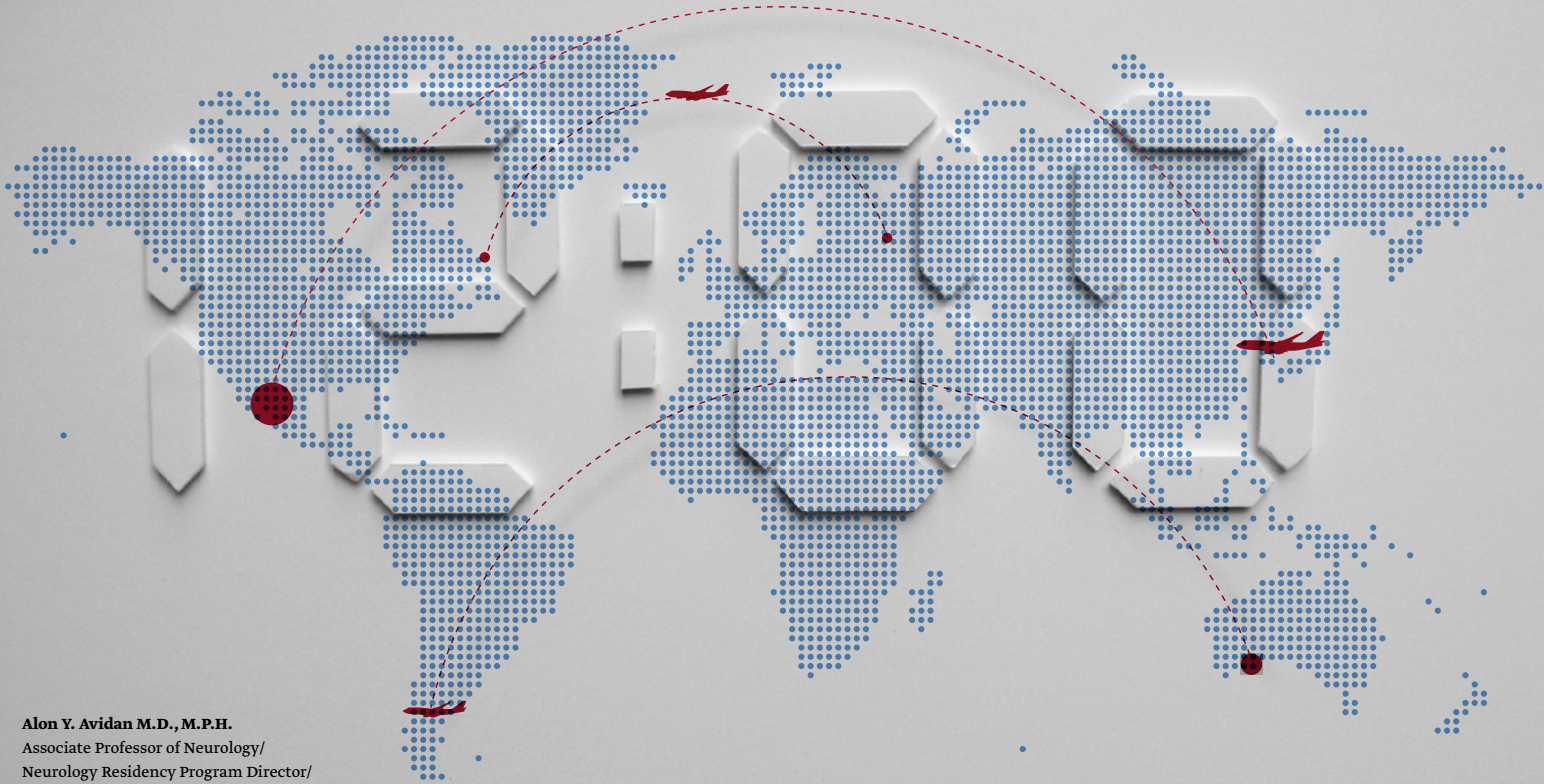
— Joan Didion, *The White Album*

the medication, and with some we have had excellent results. Some patients experience dizziness, and because the medication can be energizing, some patients have found that it interferes with sleep if they take it too close to bedtime. In general, however, most patients have no side effects. Memantine has not been proven with formal clinical trials to be effective for migraine prevention, but we believe it is an excellent candidate for further study. It may be worth a try for patients who have tried other standard migraine treatments."

Charles explains that while they continue to search for new medications, the use of memantine is an example of how the UCLA Headache Research and Treatment Program has been actively pursuing existing medications that are currently being used to treat other conditions but may also work for migraine. "If we can find migraine treatments that are in current use for other indications, then we can jump past the years of pre-clinical and clinical research that is required to bring a new medication to patients. It is vastly more economical and efficient. We have some promising candidate medications that we are currently evaluating."

He adds that the problem with headache is that individual patients likely have different genetic, neurochemical, and environmental causes for their headaches, so there is no single protocol that works for everyone. To complicate things further, some treatments, such as pain medications, that help the headache in the short term, may actually make the headache worse in the long run. They may change a patient's brain physiology so that the headache progresses with time and becomes more difficult to treat.

"Headache has a lot to teach us about how the brain works, and we can learn a lot about normal brain function from studying migraine. These are exciting times for the field of headache medicine and should be hopeful times for the many millions of people worldwide who suffer from this disorder," says Charles. ■



Alon Y. Avidan M.D., M.P.H.

Associate Professor of Neurology/
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Associate Director, Sleep Disorders Center/
UCLA, Department of Neurology/
David Geffen School of Medicine at UCLA

Alon Avidan M.D., M.P.H.

Jet-Lag Syndrome

You have just arrived in Athens after a 20-hour flight from LAX via Paris. You are exhausted, your head is pounding, your eyes are shut and your 10-day trip to Greece is about to start. It is 9:00 a.m. Athens time and your long-awaited guided tour of this legendary city is scheduled to take place in two hours, but you are craving sleep. You are suffering from jet-lag syndrome, a special type of Circadian (Latin for "around a day") rhythm abnormality.

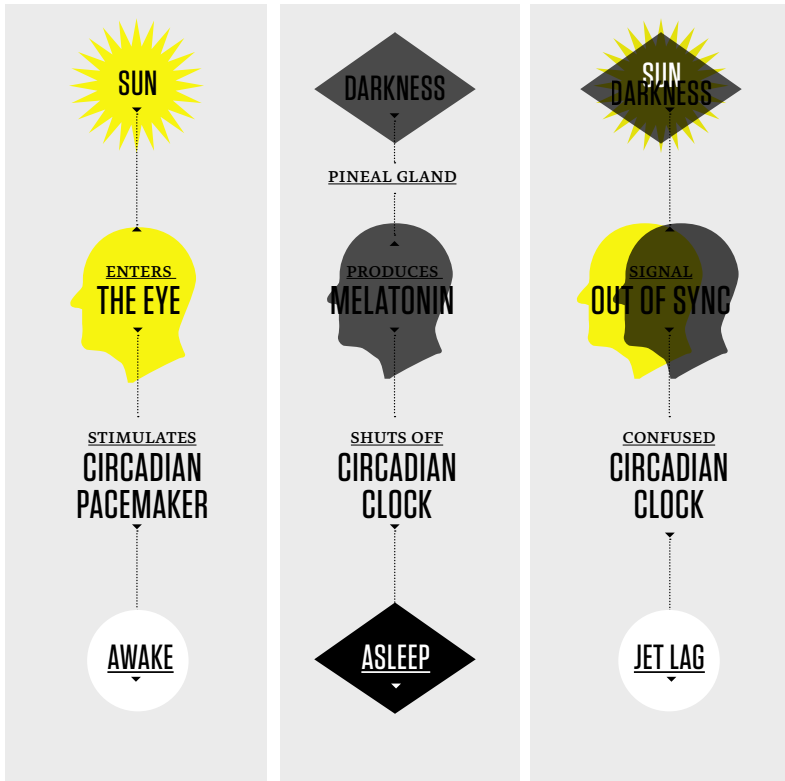
Circadian rhythms are regular and predictable cycles in sleep and wakefulness that occur during the course of a 24-hour period. Circadian rhythms are controlled by a circadian pacemaker in a special region of the brain called the suprachiasmatic nucleus. Light reaches special receptors in the retina of the eye, traveling along the optic nerve to the circadian center causing it to "turn on" and make us alert.

Darkness, or the absence of light, causes the pineal gland to produce the substance melatonin. Melatonin is good to have around when you are trying to fall asleep, as it tells the circadian clock to "be quiet." This turning on and off of the circadian clock by light and melatonin allows us to have repetitive circadian rhythms that contribute to sleep and wakefulness.

Circadian Rhythm Abnormalities

Abnormalities in the circadian clock are caused by changes in circadian timing (e.g. when you stay up too late partying or preparing for an exam) or may be due to changes in the outside environment (e.g. travel to a different time zone). People who suffer from circadian rhythm disorders often complain of insomnia (sleeplessness) and/or sleepiness.

Jet-lag syndrome occurs when a person travels quickly across several time zones, confusing the circadian clock by not letting it adjust to the new timing of light and darkness at the destination. People who experience jet-lag syndrome experience difficulty sleeping, excessive daytime sleepiness, fatigue, abnormal performance and stomach irritations. The severity of jet-lag symptoms and the ability of the traveler to adapt to the new time zone are generally related to the direction of travel—worse when traveling west-to-east—and the number of time zones crossed. Jet-lag syndrome can occur crossing as few as two time zones (e.g. a flight from Los Angeles to Chicago).



Sunlight enters the eye and stimulates the “circadian pacemaker” in the brain causing us to be awake. Darkness causes the pineal gland in the brain to produce the hormone melatonin in the evening. Melatonin travels in the blood and “shuts off” the circadian clock allowing us to fall asleep. In jet-lag disorder, the signal from the sun and the darkness are “out of synch” compared to the patient’s normal day and night cycle which confuses the circadian clock causing us to feel sleepy and have insomnia when arriving to our international destination.

Eastward travel generally causes difficulty falling asleep, while westward travel causes difficulty staying asleep—and one tends to wake up too early in the morning. Not all travelers crossing time zones suffer from jet lag to the same degree, and these differences depend on the individual.

Treatment for jet-lag syndrome is aimed at speeding up a person’s ability to become used to the timing of light and dark cycles at the new time zone. The most effective treatments involve light and melatonin. Adjusting the circadian clock to the new timing of the sleep-wake cycle is dependent on the direction of travel and the number of time zones crossed. For example, the tourist traveling from Los Angeles to Athens should remain awake during the flight, avoiding bright light in the morning, but getting as much light as possible in the afternoon. A westbound tourist (e.g. L.A. to Tokyo) should try to stay awake while it is daylight at the destination, and try to sleep when it gets dark.

The dietary supplement melatonin (1-3 mg is commonly available over the counter) is another jet-lag syndrome treatment. It can be taken at bedtime in the new location to reduce symptoms of jet lag. For the seasoned traveler, other medications that may help when used correctly are “hypnotic medications” such as Zolpidem (Ambien), which may be used on arrival for three consecutive nights, starting with the first night’s sleep after travel. There are several other strategies that may aid in reducing the impact of jet-lag symptoms. These include making sure that the traveler is getting enough sleep, eating meals according to local time and either getting or avoiding too much light at the appropriate time. For some people it may be useful to change their sleep-wake cycle even prior to departure to match that at the point of destination, thereby reducing the time required to adjust to the new time zone upon arrival. After all, you don’t want to miss that guided tour... ■

Latisha Katie F. Ali, M.D. /Assistant Professor of Neurology/Director, TeleStroke Program/Department of Neurology/David Geffen School of Medicine at UCLA

Latisha Ali, M.D.

Why I Do This

“Time is brain,” says Latisha Ali, director of the UCLA TeleStroke Program, in which UCLA stroke experts use live video connections to help emergency physicians at other hospitals assess patients with acute stroke, transient ischemic attack (TIA), and stroke-like conditions. “Within 15 minutes we will be in your ER to take care of your patient.”

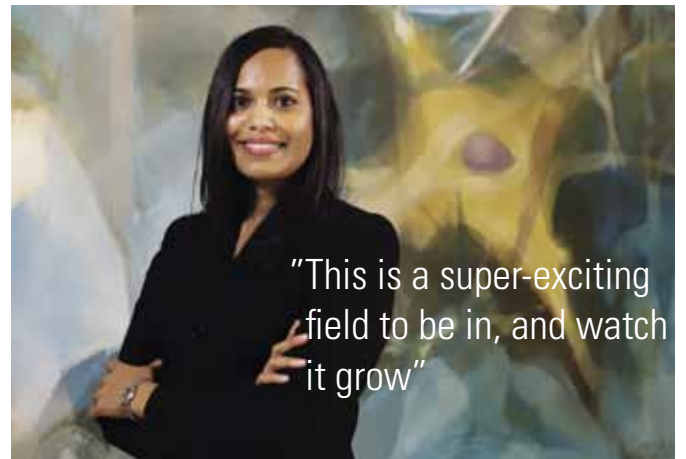
Time and expertise are of the essence in the treatment of stroke, a neurological emergency in which an area of the brain is not getting the blood it needs to survive, often due to a clot in the blood supply. Approved treatment to restore blood flow is most effective when administered as soon as possible after hospital arrival (there is a critical, three-hour window) by physicals skilled in the management of cerebrovascular conditions. Many hospitals lack the proper resources. The UCLA TeleStroke Program can provide the necessary expertise as needed, up to 24 hours a day, seven days a week.

The two-tiered program offers two types of technology, robot and video card system, Ali explains. In the first tier, UCLA partners with Specialists on Call to provide emergency telemedicine in neurology to geographically distant hospitals throughout California via secure electronic image transfer and video consultation. Currently six hospitals are participating, with 13 projected by August, 2010. “UCLA is the only provider for Specialists on Call in California because of our stroke expertise.”

“We’ve gotten a lot of great feedback,” Ali says, “and for me, it’s particularly rewarding. Without this program, we wouldn’t be able to provide such quick response. It’s an interesting way of interacting with a patient. I thought it would be difficult to bond using a robot, but it has been surprisingly easy.”

The second tier of the UCLA TeleStroke Program, which Ali is in the process of setting up, provides tele-emergency neurology services within the Los Angeles area. “We’re in negotiations with hospitals to join our network. As a comprehensive stroke center, we can be an outreach service to the community. The technology allows us to provide a higher standard of basic neurology expertise,” she explains.

The program’s needs are many. “We need funds for equipment; we need to make the program sustainable. It’s important to learn from these patients, to set up a research data base. We’re also working on a two-way video phone, a pre-hospital program for paramedics, so that they can dial Dr. Saver (Jeffrey Saver, M.D., Medical Director, UCLA Acute Stroke Unit) or me. Now we can actually see the patient, so we can initiate treatment before they ever get to the hospital.” ■



“This is a super-exciting field to be in, and watch it grow”

The Power of Philanthropy

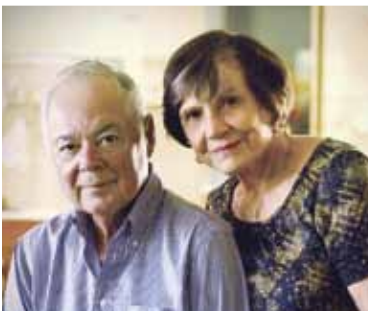
When Giving Is a Family Affair

Marilyn Ziering, president of The Ziering Family Foundation, is the matriarch of a family who has generously supported the Department of Neurology at UCLA—Marilyn through gifts to the Brain Cancer Research Program, and son Michael and daughter-in-law Diane and her parents, Dottie and Larry Delpit, through gifts to the Mary S. Easton Center for Alzheimer's Disease Research.



"You have to give back to whatever is your passion."

Marilyn Ziering and her late husband, Sigi



Dottie and Larry Delpit

You Can Make A Difference!

"You have to give back to whatever is your passion," says Marilyn Ziering, for whom philanthropy has long been an integral part of life. A founder of the United States Holocaust Memorial Museum, she has been a member of the LA Opera's Board of Directors since 2005. Among her other philanthropic interests are Temple Beth Am, Chaim Sheba Medical Center, the American Youth Symphony and the American Friends of the Israel Philharmonic.

As part of her philanthropic work with the LA Opera, Ziering is the underwriter of *Recovered Voices*, a project dedicated to performing the lost music of composers persecuted and destroyed by the Third Reich. Her late husband, Sigi, who passed away from brain cancer in 2000, was a Holocaust survivor, which inspired her support of *Recovered Voices*. "If we hear their music and honor these talented people, then Hitler didn't have a victory," she explains, citing an African proverb about the three stages of dying: the last breath; when the body is interred; and when the name is forgotten. "I like to think that if your name is not forgotten, then you live."

Ziering's support of the Brain Cancer Research Program at UCLA is, in a word, emotional. "Dr. Tim Cloughesy took care of my late husband, who had an inoperable Glioblastoma. It was terminal from the diagnosis; but Dr. Cloughesy showed so much humanity, kindness and honesty, he literally kept our family together. He should get a Nobel Prize for being a humanist, because it's not easy to deal with brain cancer patients and their families. There are many conflicts. Dr. Cloughesy understands that you're not treating a disease, you're treating a patient. We wanted to work on a treatment—there is not one treatment for everyone. That's what inspired our giving."

Ziering, who has four children and nine grandchildren ranging in age from 24 to six, counsels that you have to start very early and be an example to your children. Hoping to inspire one of her grandsons, she had him come to a foundation meeting when he was just six years old. Seeing an award his grandmother had just received, he asked how she got it. "I got it for doing something good. When you do something really good, you'll get one, too," she replied.

That boy, Matthew, now 24 and a recent college grad, is one of three children of Diane and Michael Ziering, whose philanthropic priorities are education, health care and housing. "Education because it's the foundation of everything; health care because you need it to survive; and housing because people need to have a certain standard of living," explains Diane, who along with her husband Michael serves on the board of UCLA's Mary S. Easton Center for Alzheimer's Disease Research and whose mother has Alzheimer's.

"For me, it's personal," Diane says. "I wanted to give back, and we also don't want to leave any stone unturned in regards to my mother's care. It's about being able to sleep at night."

"We believe in giving back to the areas that have impacted our family," says Larry Delpit. "For example, we donated a cardiac rehabilitation center to Torrance Memorial, our local community hospital, and we strongly support the Mary S. Easton Center for Alzheimer's Diseases Research at UCLA. UCLA is a teaching and research hospital, and our gifts complement each other."

Diane, whose considerable philanthropic endeavors extend to a school in New Orleans hard hit by Katrina, believes that she and father share a view of philanthropy that comes from knowing what it's like to have very little. "My dad came from extreme poverty in New Orleans. He came to California and worked in an oil refinery, but he worked hard and got a job in the business office and became successful. I was so blessed to be able to attend UCLA and it inspired me."

The Ziering and Delpit families are a testament to the power of parents setting an example of giving back. Marilyn Ziering says that organizations today struggle to get their donors' children involved. "I only hope our family will inspire other families to catch on." ■

The Department of Neurology at the David Geffen School of Medicine at UCLA is an academic department dedicated to understanding the human nervous system and to improving the lives of people with neurological diseases.

The Department of Neurology has many pressing needs to continue our mission. You can direct your charitable gifts of cash, securities, real estate, art, or other tangibles to our greatest needs, under the direction of Dr. John Mazziotta, Chair of the Department, or to specific research, training, laboratories, or programs of specific physicians or diseases. For more information please contact Patricia Roderick, Director of Development, UCLA Department of Neurology, (310) 267-1837 or proderick@support.ucla.edu.



Cranium Crusaders

Raising Money to Find a Cure for Brain Cancer

Photo: Donna M. Griggs

Cindy Atkinson and Cris Zavaleta are two women on a mission. The “Cranium Crusaders,” who have just become an official UCLA support group for brain cancer—have joined forces to raise money to help extend the lives of those diagnosed with this deadly disease, as well as fund brain cancer research at UCLA, in their opinion the most cutting-edge medical institution in the country.

“We have one simple mission—to find a cure—and we’re doing it the only way we know how, by raising money,” said Atkinson and Zavaleta, who met through their husbands, both of whom had been diagnosed with brain cancer.

Tom Atkinson passed away in 2006 at age 53 from an aggressive form of brain cancer called Glioblastoma Multiforme (GBM). Hank Zavaleta, a retired Long Beach fire captain, was diagnosed with the disease seven years ago.

“Many who are given this diagnosis are given only months to pick the ‘right’ treatment—this may mean surgery, radiation, and trying several chemotherapy and immunological protocols. Luckily, there are also survivors who are living years after their initial diagnosis. Incredible discoveries that are leading to promising new treatments for brain cancer are being made through immunological and genetic research—many are already being tested on patients in clinical trials. While the technology is available, finding the money to produce and test new medications is the limiting factor, and those with GBM are in a race for their lives,” Cindy Atkinson explained.

“My husband was diagnosed with GBM at the early age of 39,” said Zavaleta. “Unaware and afraid, we were sent to UCLA and met incredible doctors including neuro-oncologist Tim Cloughesy. From that day forward, I knew

I had to do something. Together, Cindy and I feel it is well worth our time to raise funds and bring people together for one purpose. God has blessed our family, so please help us to bless many more.”

To that end, the 4th Annual Long Beach Firefighters & Friends Event Benefiting Brain Cancer Research at UCLA was held on April 29, 2010. The event was the Cranium Crusaders’ first official effort as a UCLA support group. It took place at O’Malley’s on Main in Seal Beach, a pub co-owned by Brian Kyle and Atkinson. Tom Atkinson was Kyle’s lifelong best friend.

By raising money for a cause so close to their hearts, Atkinson and the Zavaletas hope to generate awareness about brain cancer; share survivors’ concerns and fears; and spread hope for a cure.

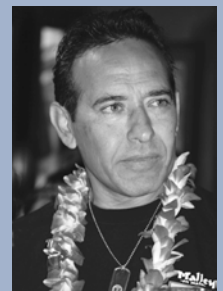
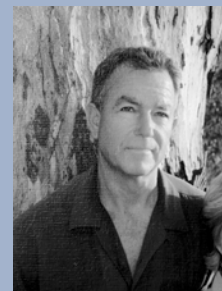
The O’Malley’s on Main event began four years ago as a kick-off fundraising event for the Tom Atkinson Memorial 5K. The two events raised more than \$140,000 in their inaugural year. This year’s Tom Atkinson Memorial 5K event took place on Saturday, May 8, 2010 at Long Beach Veterans’ Stadium. The date marked the seventh anniversary of Hank Zavaleta’s diagnosis.

For more information about Cranium Crusaders, including events, contacts, and how to donate, please visit www.craniumcrusaders.org. ■



Firefighters & Friends Event

Photo: Donna M. Griggs



Left: The late Tom Atkinson; Right: Hank Zavaleta

MEET
A
SCIENTIST

Peyman Golshani, M.D., Ph.D.

Peyman Golshani has spent his scientific life trying to discover how genes and experience influence the developing cortical circuit and how neurodevelopmental diseases can interfere with brain maturation. His goal is to find treatments that will control these disorders.



Specifically, Golshani, a graduate of UC Berkeley, who received his M.D., Ph.D. degrees from UC Irvine, has set out to study autism. “Autism is, to a large extent, a black box—we understand very little about it. I wanted to take the most advanced tools in neuroscience and apply them to finding treatments for these disorders,” he says. “Basically, I study how the brain processes information and how these processes are disturbed in neurodevelopmental disorders—in short, how neurons talk to each other and how disorders alter this conversation. In the scientific model, I study how mutations found in some autistic children alter how the brain takes in and stores information from the outside world.”

This scientific work relates directly to Golshani’s clinical experience with refractory epilepsy patients, many of whom have neurodevelopmental conditions. As a clinician-scientist, he tries to share what he learns in the laboratory with medical students, residents, and fellows whom he trains, so that a patient’s clinical condition and treatment can fit into a scientific framework. “As a team, we discuss what has been done to understand the mechanisms causing the patient’s clinical condition and what can be done in the future to push for a cure.”

“I feel fortunate that I am doing exactly what I imagined I would be doing even before I began my undergraduate education,” says Golshani, whose love for neuroscience and neurology began in high school when his biology teacher suggested he apply to work in a laboratory as a summer student. He jumped at the chance to be placed in Dr. Claude Wasterlain’s laboratory at the Sepulveda VA Medical Center.

“I fell in love with the scientific process then. The fact that scientific dogma could be questioned and refuted was thrilling. The suggestion that my work could make a contribution in understanding how changes to cortical circuits cause disease drives me to this day.”

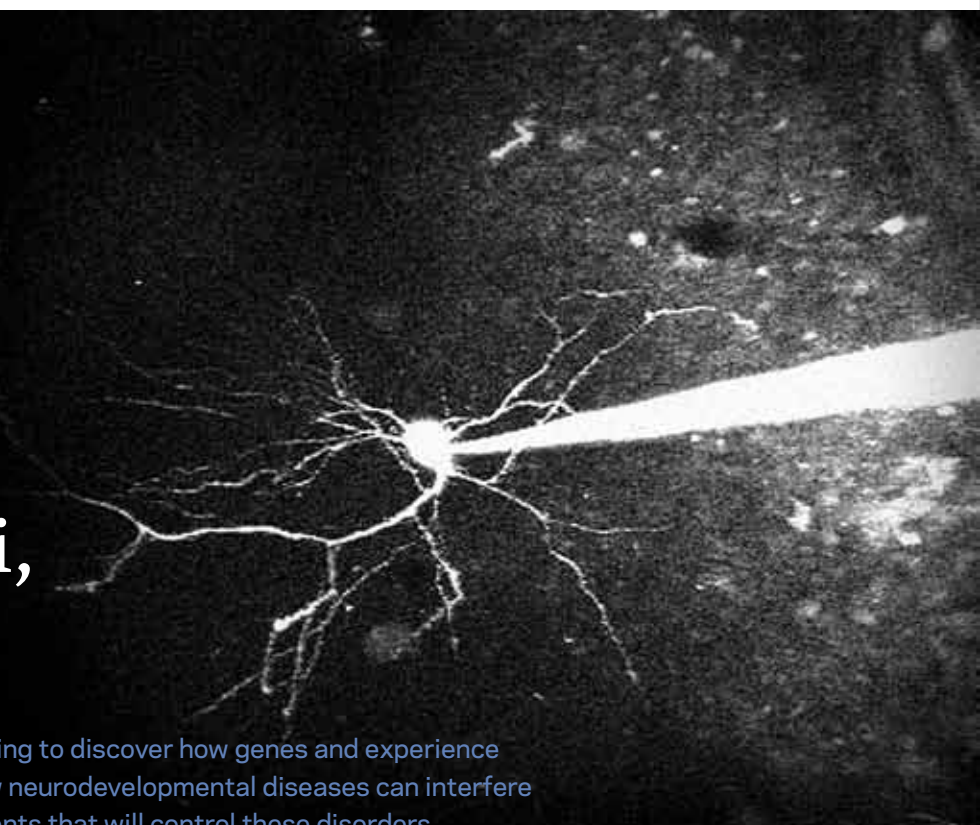
Dr. Golshani, who has been at UCLA since completing his residency in Neurology here in 2006, believes that two-photon

imaging of neuronal activity and connectivity in the scientific model paired with new tools that allow the control of neuronal activity with light (optogenetics) will revolutionize the study of neurodevelopmental disorders.

Golshani’s current research project focuses on a model of autism resulting from mutations in the *neurologin3* gene. In this model, he has found changes in the way the visual cortex processes information. He feels these changes may play a role in the sensory processing problems experienced by some autistic children. “We have seen dramatic changes in how the visual cortex mirrors and transforms images. We are currently performing two-photon calcium imaging and patch clamp recordings in a scientific model to understand how these changes come about.”

Golshani also works in collaboration with Joshua Trachtenberg, Ph.D., and says that they are already well underway to unraveling how functional neuronal connectivity becomes altered in a model of autism with macrocephaly (abnormally enlarged head). A proportion of children with autism with macrocephaly have mutations in the gene *PTEN*. “Our preliminary results show excessive synchronization of spontaneous cortical activity in this model,” he says, explaining that rare mutations are helpful to study because they allow one to understand the mechanisms at play. “The FDA-approved drug rapamycin halts brain and growth and seizures in this model. We are very interested to see if this drug can reverse the sensory processing abnormalities that we find.”

To develop these tools will require collaboration with many scientists from many disciplines, including physicists, engineers, and molecular biologists. Luckily, says Golshani, UCLA has diverse, exceptionally talented, and amazingly collaborative colleagues in these disciplines that can make this dream a reality. ■



MEET OUR VOLUNTARY FACULTY

We would like to introduce you to some of UCLA Neurology's dedicated voluntary faculty over the coming months. This group of physicians helps us ensure that UCLA Neurology residents receive the best medical education possible. Our voluntary faculty has grown from only a few neurologists in the 1950s and 1960s to 70 as of 2010. Many of them have been and are accomplished full-time academicians, and some have successful private practices. The commitment of these doctors in offering their clinical expertise and time without financial remuneration in these cost-conscious times is deeply appreciated.



Peter-Brian Andersson, M.D., Ph.D.

Dr. Peter-Brian Andersson, a neurologist in private practice with the San Fernando Neurologic Medical Group, Inc., in Tarzana, CA, has been volunteering his time at UCLA for the past 10 years and is enthusiastic about this aspect of his career. "I love it because it's a chance to be teaching brilliant residents and then to be able to walk away. It's kind of like being a grandparent—no papers to grade," he explains.

Andersson, a clinical associate professor in Neurology, specializes in neuromuscular disease and spent the last five years as a tutor to medical students and as an attending physician in the resident clinic.

"It's amazing to see these residents mature. On the first day, they know nothing, and then after about a month, it just explodes. It's great to be able to witness the transformation of a med student's mind," Andersson says.

Andersson, a native of Cape Town, South Africa, is board-certified in Neurology and Clinical Neurophysiology and holds undergraduate and medical school degrees from University of Cape Town. After earning a Ph.D. in Neuroimmunology from Oxford University, he completed an internship in Internal Medicine and a residency in Neurology at UC San Francisco, where he also served as a clinical instructor and Multiple Sclerosis Fellow. This was followed by a fellowship in Neuromuscular Disease at Stanford, where he also served as a clinical instructor.

Andersson has won many scholastic awards throughout his undergraduate, graduate, and academic careers. He is the recipient of numerous teaching awards from the David Geffen School of Medicine at UCLA, including the Neurology Department Outstanding Medical Student Teaching Award in 2006; Outstanding Tutor awards in 2007, 2008, and 2009; and the Department of Neurology Golden Hammer Award in 2008. This year, he was recognized by *Los Angeles Magazine* as one of Southern California's Super Doctors.

"UCLA has always made me feel very welcome," says Andersson. "I feel the department looks after its volunteer faculty. There's a whole community of us and there is a lot of rapport among the members." ■

UCLA Stroke Center Hosts Congressional Staff Educational Tour

The UCLA Stroke Center hosted four Congressional staff members from the offices of Representatives Adam B. Schiff, Diane Watson and Henry Waxman at the Ronald Reagan UCLA Medical Center on Jan. 11, 2010. The event was co-sponsored by the American Heart Association.

The educational tour provided an overview of UCLA research that is part of the Specialized Program of Translational Research in Acute Stroke (SPOTRIAS) Center—a national network of eight centers that perform early phase clinical projects, share data, and promote new approaches to therapy for acute stroke. SPOTRIAS is funded by the National Institute of Neurological Disorders and Stroke (NINDS) / National Institutes of Health (NIH).

"We welcomed the opportunity to meet the congressional staff members and share with them how federal funding is being applied to stroke research at UCLA," said Dr. Jeffrey Saver, professor of neurology and Medical Director, UCLA Acute Stroke Unit. "The investment in SPOTRIAS allows us to move the most promising, early-stage stroke treatments from the bench to the bedside, with the goal reducing the burden of stroke for patients, families, and society." ■

In Memoriam.

The Department of Neurology is sad to report the passing of two very supportive donors.

David Hettler, Executive Vice-President World Wide Finance Systems, and IT, Warner Home Video, died in Los Angeles on February 27, 2010 of brain cancer. He was 49. Survivors include his wife, Sheri; his son, Shane; and his daughter, Shelby. Mr. Hettler, a native of Berea, Ohio, was a star basketball player at Claremont McKenna College in Claremont, Calif., where he majored in Economics/Accounting. After a stint at "Big Eight" accounting firm Arthur Young (now Ernst & Young), he joined Warner Bros. in 1993. During his tenure there, his responsibilities included oversight of financial activities. Additionally, he served as a member of the management team overseeing the implementation of the company's SAP finance and procurement system worldwide. Described as "a dedicated and often selfless executive," he helped steer the studio's home video department through the industry's uncertain economic times of the past several years. He is remembered as an effective leader and a dedicated and caring family man.

Terry "Honey" Jacoby, loving wife of Marc Jacoby, passed away on December 17, 2009, from complications of ovarian cancer. Born in Los Angeles on August 29, 1950, Terry or "TT," as she was known, was 59. She is also survived by her two children, Michael and Michelle; two grandchildren, Sarah and Josh; her mother, Arlene; sister, Sue; brother-in-law, Jay; and everyone she touched along the way.

We extend our deepest sympathy to both families. ■

Department of Neurology

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MEET
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Oliver Sacks, M.D., F.R.C.P.

Acclaimed medical writer and neurologist Dr. Oliver Sacks, dubbed "the poet laureate of medicine" by *The New York Times*, completed residencies in Neurology and Neuropathology at UCLA.

Oliver Sacks studied here from 1962-1965. He returned to UCLA last year to make an appearance at UCLA Live's Royce Hall for a discussion of music, healing and the brain.

Sacks is perhaps best known for his collections of case histories from what his official biography calls "the far borderlands of neurological experience." In the best-selling books, *The Man Who Mistook His Wife for a Hat* and *An Anthropologist on Mars*, he describes patients struggling to live with an array of different neurological conditions.

In 1966, Sacks encountered a group of patients who were survivors of the great encephalitis lethargica epidemic of the early twentieth century. Some of them had been frozen, virtually immobile, for decades, until he gave them the new drug L-dopa.

Awakenings, his 1973 book about this experience, inspired a Harold Pinter play, "A Kind of Alaska," and the 1990 Oscar-nominated film, "Awakenings," with Robert De Niro and Robin Williams.

In his recent book, *Musicophilia*, Sacks explores, through his experience as a clinician, such varied topics as musicogenic epilepsy, musical hallucinations, synesthesia, Williams syndrome, amusia, and above all, the therapeutic powers of music for people with parkinsonism, dementia, and other disorders.

Sacks is Professor of Neurology and Psychiatry at Columbia University, as well as the Columbia's first University Artist. His work has received numerous literary and medical awards, including a Guggenheim Fellowship and an Alfred P. Sloan Foundation grant. He is an honorary member of the American Neurological Association, the American Psychoanalytic Association, and the Association of British Neurologists.

Through his books and frequent essays in *The New Yorker* and *The New York Review of Books*, Sacks has entertained, inspired, and transformed our understanding of the human mind. ■