Dacey receives award from neurosurgeons' association

May 29, 2013  
By WUSTL Newsroom

The American Association of Neurological Surgeons (AANS) presented Ralph G. Dacey Jr., MD, with the 2013 Distinguished Service Award as part of its 81st Annual Scientific Meeting in New Orleans.

The Distinguished Service Award is one of the highest honors bestowed on a member, recognizing exemplary service to the AANS and the neurological specialty.

Dacey is the Henry G. and Edith R. Schwartz Professor and chair of the Department of Neurological Surgery at Washington University School of Medicine in St. Louis and neurosurgeon-in-chief at Barnes-Jewish Hospital. As the author of more than 200 articles in the areas of neurosurgery and cerebrovascular physiology, he counts the physiology of intracerebral microcirculation as a research focus. Dacey also is a recipient of the National Institutes of Health (NIH) Clinical Investigator Development Award.

“The Distinguished Service Award means a lot to me. To be recognized in this way by the leaders of our specialty is very rewarding,” Dacey said. “As a neurosurgeon, the ability to improve the lives of our patients and have an impact on the education of our residents is a great privilege.”

A longtime neurosurgical advocate, Dacey was both the president and honored guest of the Congress of Neurosurgeons after a longstanding appointment to the executive committee of the organization. He is the former president of the Society of Neurological Surgeons and a past president and treasurer of the American Academy of Neurological Surgery.

In 2010, he was elected to the prestigious Institute of Medicine. Additional achievements include his service to the NIH’s National Institute of Neurological Disorders and Stroke advisory council and to the Accreditation Council for Graduate Medical Education as a member and chair of the Residency Review Committee for Neurosurgery. He also served as chair of the American Board of Neurological Surgery.

After completing undergraduate studies at Harvard University, Dacey obtained his medical degree from the University of Virginia.

Founded in 1931 as the Harvey Cushing Society, the American Association of Neurological Surgeons is a scientific and educational association with nearly 8,300 members worldwide.

Welcome back Ian Dorward

Former resident, Dr. Ian Dorward, returns to the department as an assistant professor. As many of you already know, Ian completed a spinal surgery fellowship under the instruction of Drs. Larry Lenke, Keith Bridwell, Dan Riew and Jacob Buchowski in the Department of Orthopedics this past year. Ian’s practice will focus primarily on spinal disorders and complex spinal reconstruction. We are happy to welcome Ian back to the department.
XPRIZE proposed to inspire Alzheimer’s research

May 23, 2013
By Michael C. Purdy

XPRIZE, which in 2004 awarded $10 million for the first privately built, manned spacecraft launched into space twice in two weeks, may soon be setting its sights on effective treatment for Alzheimer’s disease.

XPRIZE hopes to create a new Alzheimer’s XPRIZE to inspire the ingenuity of researchers and increase their interest in taking on the daunting task of stopping the disease.

An Alzheimer’s prize was proposed by a team of experts co-directed by Eric C. Leuthardt, MD, associate professor of neurological surgery and biomedical engineering at Washington University School of Medicine in St. Louis, and Dean Ornish, MD, founder and president of the nonprofit Preventive Medicine Research Institute and clinical professor of medicine at the University of California, San Francisco.

The team’s proposal to tackle Alzheimer’s won a recent XPRIZE “Visioneering” workshop that drew proposals on topics of importance to society.

“The presentation by Dr. Ornish and Dr. Leuthardt, and the vote of support by the Visioneering attendees, has certainly reaffirmed what we at XPRIZE deeply believe — that Alzheimer’s is one of humanity’s grandest challenges and that an innovative solution is urgently required,” said Eileen Bartholomew, vice president of Prize Development at XPRIZE. “We will continue to explore how an XPRIZE might catalyze such a solution.”

Leuthardt, who treats patients at Barnes-Jewish Hospital and St. Louis Children’s Hospital said: “Basically, XPRIZES are about making the impossible possible. They’re about giving innovators the incentive to achieve new breakthroughs that benefit society.”

A similar contest, known as the Orteig Prize, inspired Charles Lindbergh’s solo flight across the Atlantic Ocean in 1927. Leuthardt noted, and that led to the start of commercial air travel a short time later.

At XPRIZE’s annual Visioneering event, more than 100 pioneering scientists, inventors, engineers, artists, philanthropists and business leaders met to propose new XPRIZE concepts.

The attendees are divided into teams and assigned an area of research within which they create an XPRIZE proposal. The team led by Leuthardt and Ornish was given the topic of aging.

Noting that an epidemic of Alzheimer’s disease is on its way, the team compared the potential crisis to a meteor in space lined up to strike the Earth.

“Populations are growing older around the world, and Alzheimer’s risk increases significantly with age,” Leuthardt said. “This will affect not only the elderly but also their families and loved ones, and it will have devastating emotional and economic consequences.”

The details of what qualifies as a cure for Alzheimer’s would be established if the foundation raises funds for the prize. As in other XPRIZES, the winners of the award would retain the intellectual property rights for their breakthrough.

“I think everyone is touched or will soon be touched by Alzheimer’s,” Leuthardt said. “I think that’s part of the reason why our proposal won — everybody in the audience had a family member affected by Alzheimer’s or knew someone with a family member affected by this disorder.”

Other XPRIZES include or have included a prize for the first “tricorder” (a handheld device that can non-invasively diagnose 15 health conditions like the tricorders featured on Star Trek); a prize for the first group to sequence the DNA of 100 100-year-olds for identification of genetic factors linked to extended lifespans; and a prize for the first privately funded team to send a lander to the moon.
Washington University physicians dominate 2013 St. Louis Best Doctor List

July 18, 2013
By Washington University Physicians

The August issue of St. Louis Magazine will feature physicians and surgeons in our community who have been selected as Best Doctors in America by Best Doctors Inc. This year, Washington University Physicians accounted for 403 of the 1,349 chosen in the greater St. Louis area – almost 1 in 3 of all physicians identified and the largest number of any group practice in the Midwest.

This peer-to-peer survey, conducted every two years, is based on physicians’ opinions of their colleagues’ skills and abilities. Questionnaires from the company are mailed to thousands of doctors with the question, “If you or a loved one needed a doctor in your specialty, to whom would you refer them?”

The thought is that doctors have unique, inside perspective about colleagues who are at the top of their profession. The polling process is anonymous, confidential, qualitative and quantitative and no payment is involved.

The following Washington University neurosurgeons were chosen:

- Michael Chicoine, MD
- Ralph Dacey Jr., MD
- Robert Grubb Jr., MD
- Jeffrey Leonard, MD
- David Limbrick, MD
- T.S. Park, MD
- Keith Rich, MD
- Paul Santiago, MD
- Matthew D. Smyth, MD
- Neill M. Wright, MD

Neurology and Neurosurgery Center at SLCH ranked 2nd by U.S. News

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<th>National Rank</th>
<th>Hospital</th>
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The Neurology and Neurosurgery Center at St. Louis Children’s Hospital, for which Washington University neurosurgeons provide specialized care, was ranked #2 in the nation by U.S. News & World Report.
Meet our new residents

NAME: Brendan Fong, MD
HOMETOWN: Rancho Palos Verdes, CA
MED SCHOOL: University of California, Los Angeles
FAVORITE THING ABOUT STL: “I just moved from Los Angeles to St. Louis and haven’t had too much time to explore, but I am a huge fan of the barbeque.”

NAME: Santoshi Indrakanti, MD
HOMETOWN: Sonoma, CA
MED SCHOOL: Washington University in St. Louis
FAVORITE THING ABOUT STL: “I like to visit are the symphony, art museum and the city museum. I also enjoy hiking and biking in the multiple parks around the city.”

NAME: Afshin Salehi, MD
HOMETOWN: Mashhad, Iran
MED SCHOOL: University of California, San Diego
FAVORITE THING ABOUT STL: “The 4th of July festivity with the free concerts and the air show at the Gateway Arch was probably the highlight. The numerous free or at least cheap activities such as the zoo, the museums, Wednesday concerts at the Botanical Garden, and the like, all make STL a fun place to live. And finally I have very much liked the people whom I have worked with so far which ultimately makes living here fun.”

Employees Exceeding Expectations program

August 12, 2013

Launched in January, this program is designed to reward teams for patient experience metrics associated with their unit, department or affiliated group. This method provides leaders and team members with a better line-of-sight to how behaviors, results and rewards can impact the overall quality of care to our patients and their families.

Based on the patient experience metrics associated with their unit, the Neurological Surgery Residents have earned the Employees Exceeding Expectations (EEE) bonus for the second quarter of 2013.

The EEE bonus payout recognizes those residents who were full-time employees of BJH on April 1, 2013.

Cooling may prevent trauma-induced epilepsy

February 20, 2013
By Michael C. Purdy, WUSTL Newsroom

In the weeks, months and years after a severe head injury, patients often experience epileptic seizures that are difficult to control. A new study in rats suggests that gently cooling the brain after injury may prevent these seizures.

“Traumatic head injury is the leading cause of acquired epilepsy in young adults, and in many cases the seizures can't be controlled with medication,” says Matthew Smyth, MD, associate professor of neurological surgery and of pediatrics at Washington University School of Medicine in St. Louis. “If we can confirm cooling’s effectiveness in human trials, this approach may give us a safe and relatively simple way to prevent epilepsy in these patients.”

Scientists at the University of Washington and the University of Minnesota, and surgeons at Washington University reported their findings in *Annals of Neurology.*

Cooling the brain to protect it from injury is not a new concept. Cooling slows down the metabolic activity of nerve cells, and scientists think this may make it easier for brain cells to survive the stresses of an injury.

Doctors currently cool infants whose brains may have had inadequate access to blood or oxygen during birth. They also cool some heart attack patients to reduce peripheral brain damage when the heart stops beating.

Smyth and his collaborators have been exploring the possibility of using cooling to prevent seizures or reduce their severity.

“Warmer brain cells seem to be more electrically active, and that may increase the likelihood of abnormal electrical discharges that can coalesce to form a seizure,” Smyth says. “Cooling should have the opposite effect.”

Raimondo D’Ambrosio, PhD, an associate professor of neurosurgery at the University of Washington, has developed a rat model of post-traumatic seizures. The rats develop chronic seizures weeks after a brain injury.

D’Ambrosio, John Miller, MD, PhD, professor of neurology at the University of Washington, and Steven M. Rothman, MD, professor of neurology at the University of Minnesota, tested a headset that cools the brain on the rat model. They were originally studying the headset’s ability to stop seizures when they noticed that cooling seemed to be not only stopping but also preventing seizures.

Scientists redesigned the study to focus on prevention. Under the new protocols, they put headsets on some of the rats that cooled their brains by less than 4 degrees Fahrenheit. Another group of rats wore headsets that did nothing. Scientists who were unaware of which rats they were observing monitored them for seizures during treatment and after the headsets were removed.

Rats that wore the inactive headset had progressively longer and more severe seizures weeks after the injury; but rats whose brains had been cooled only experienced a few very brief seizures as long as four months after injury.

Brain injury also tends to reduce cell activity at the site of the trauma, but the cooling headsets restored the normal activity levels of these cells.

The study is the first to reduce injury-related seizures without drugs, according to Smyth, who is director of the Pediatric Epilepsy Surgery program at St. Louis Children’s Hospital.

“Our results show that the brain changes that cause this type of epilepsy happen in the days and weeks after injury, not at the moment of injury or when the symptoms of epilepsy begin,” says Smyth. “If clinical trials confirm that cooling has similar effects in humans, it could change the way we treat patients with head injuries, and for the first time reduce the chance of developing epilepsy after brain injury.”

The researchers have been testing cooling devices in humans in the operating room, and are planning a multi-institutional trial of an implanted focal brain cooling device to evaluate the efficacy of cooling on established seizures.

This research was supported by the National Institutes of Health, the National Institute of Neurological Disorders and Stroke (NS053928, R.D.; NS042936, S.M.R.; EB007362, F.D.); CURE (5154001.01, R.D.; 5154001.05, M.D.S.); the U.S. Army Medical Research and Material Command; and the University of Washington.

Neuronal biology at the bench and bedside: an interview with Drs. Bonni and Kim

July 5, 2012
by Cell Reporter: The Cell Reports Blog

We think it’s always fun to learn more of the stories and people behind a paper we’ve published. This week we checked in with Drs. Azad Bonni and Albert Kim, whose study about centrosomal proteasomes in neurons was published this week.

1. How did the research get started? Was there a specific finding or event that sparked interest in the project?

We had been thinking about how molecular events at the centrosome control dendrite morphogenesis in neurons based on our previous findings that the ubiquitin ligase Cdc20-anaphase-promoting complex (Cdc20-APC) and the protein kinase CaMKIIb use the centrosome as a signaling platform to regulate dendrite growth and elaboration (Kim et al., Cell, 2009; Param et al., Nature Neuroscience, 2011). Recent reports suggested that proteasome activity localized to particular subcellular domains may exert specialized biological functions. Given that proteasomes are found at the centrosome, we pursued the hypothesis that proteasome activity at the centrosome drives dendrite morphogenesis in neurons.

2. What was a notable challenge in the project, or hurdle that you had to get over?

One challenge was to convince ourselves that proteasomes regulate specific aspects of neuronal development. Since the ubiquitin-proteasome system (UPS) governs a broad array of cellular functions, we thought that it might be difficult to dissect out a specific neurodevelopmental function from the effects of proteasomes on general cellular health or other founding, indirect mechanisms. We therefore came up with the strategy of using the ubiquitin receptor S5a/Rpn10, which processes a subset of UPS substrates, to test our hypothesis. In primary cerebellar granule neurons and in the cerebellar cortex in vivo, induction of S5a/Rpn10 RNAi inhibited dendrite growth and elaboration without causing neuronal death or having any appreciable effect on axon outgrowth or patterning.

Another hurdle we had to overcome was to show that proteasomes really function at the centrosome. To do this, we devised a useful reporter assay to monitor proteasome activity at the centrosome. This allowed us to perform structure-function analyses of S5a/Rpn10 and correlate its ability to regulate proteasome activity at the centrosome with its ability to promote dendrite growth. Together, these experiments gave us confidence in the more general concept that centrosomal proteasome activity drives dendrite morphogenesis.

3. Where are you going next in these experiments?

We are very interested in how centrosomal proteasome activity is regulated. We have so far identified the HLH protein Id1 as a negative regulator of proteasome activity at the neuronal centrosome. It will be important to identify other centrosomally localized proteins that regulate the proteasome at this subcellular locale and thereby control dendrite development. We are also interested in the mechanisms by which centrosomal proteasome activity drives dendrite morphogenesis. Therefore, identifying endogenous proteasomal substrates at the centrosome that presumably negatively regulate dendrite elaboration is an important next step. More generally, it is really an exciting time to be studying proteasomes since many recent reports have linked proteasome activity—or aberrations thereof—to longevity, maintenance of stem cell identity, neurodegenerative diseases, and cancer.

4. Any other stories that are connected to the work, such as moments of insight or humor?

Completing the final experiments for the study was extra exciting because they had to be performed even as the laboratory was packing and moving from Boston to St Louis!

5. Any exciting stories related to your move to Wash U/St. Louis?

From Dr. Bonni:

My group recently relocated from Harvard Medical School to Washington University School of Medicine in St. Louis. This has been an exciting transition with a new chapter for my laboratory and in my new role as Chairman of the Department of Anatomy and Neurobiology, a department with a storied tradition of discovery. I have found that Washington University has an incredibly collaborative environment, leading to the easy flow of novel ideas among investigators. One very pleasant surprise in the move has been the comfort and convenience of living in St Louis, which has the urban feel I have enjoyed in larger cities in a small-city setting.

From Dr. Kim:

About a year and a half ago, I moved from the University of Miami Miller School of Medicine, where I was completing a clinical skull-base tumor fellowship, to Washington University. It has been simultaneously thrilling and challenging being a new faculty member in the Department of Neurosurgery as I try to balance starting a basic science laboratory with performing clinical duties as a neurosurgeon.

6. How does your clinical practice inform your research, and vice versa?

Dr. Kim:

This is a fascinating question, the answer to which, for me, is evolving over time. In addition to neuronal morphogenesis, a major interest in my laboratory is the study of patient-derived glioblastoma cancer stem cells and so my neurosurgical practice grants me unique access to human tumor samples. So the idea that clinical activity helps to focus research on clinically relevant questions does occur for me, but there are also other interesting relationships between the two. For instance, scientific training has certainly improved my clinical skills since the methodology of science teaches you not to accept causality from mere circumstance or correlation.

Drew Mitchem of Oran, Mo., is closely monitored at St. Louis Children’s Hospital a few days after suffering a severe head injury in a January 2010 sledding accident. Drew, 11 at the time, was treated according to protocol established by the hospital’s pediatric neurocritical care program. He was one of 123 patients in a study of the program’s outcomes that showed great benefits of such an approach. Drew, now 14, had a full recovery.
Honors & Awards

Ralph G. Dacey, Jr., M.D.
- Conferred as an Honorary Fellow of the Royal College of Surgeons Ireland, Dublin, Ireland – February 2013
- Presented with AANS Distinguished Service Award, AANS National Meeting, New Orleans, LA – April 2013
- Presented Presidential Address – Society of Neurological Surgeons Annual Meeting Boston, MA – June 2013

Wilson Z. Ray, M.D.
- AANS/CNS Spine Section Clinical Trial Award – April 2013

Eric C. Leuthardt, M.D.
- X Prize Visioneering Winner – April 2013
- Google Glass Research Award – July 2013

Gregory J. Zipfel M.D.
- Appointed Treasurer for Joint Cerebrovascular Surgery Section AANS/CNS

National & International Presentations

Dacey Jr., R.G. (2013, January). Middle Cerebral Artery Aneurysms: Surgical Management. Oral presentation at the Vivian L. Smith Department of Neurosurgery, University of Texas Medical School at Houston, Houston, TX.

Dacey Jr., R.G. (2013, January). Training Surgeons for the 21st Century: Challenges for Surgical Educators. Oral presentation at the All Texas Residency Conference, University of Texas Medical School at Houston, Houston, TX.


Zipfel, G.J. (2013, May). Cerebrovascular anatomy, Comprehensive Brain Anatomy and Neurological Assessment Course. Oral presentation at the Practical Anatomy and Surgical Education Center, St. Louis, MO.


Publications (January - June 2013)


Continued on page 8.
Publications cont.


New Grants Awarded: January 1-June 30, 2013

Katie Bandt
Epilepsy Foundation
"Defining ECoG Resting State Networks Associated With Focal Epilepsy"
01/01/13 – 12/31/13

Michael Chicoine
IMRIS
"IMRIS Multi-Center IMRI Neurosurgery Database (I-MiND) Project"
09/01/12 - 08/31/17

Henry Han
Alzheimer’s Association (PI: Mirica)
"Bifunctional Chemical Agents as Theranostic Tools for Abeta Aggregation"
02/01/13 – 01/31/15

Albert Kim
American Cancer Society Institutional Research Grant
"Ubiquitin signaling genes in the control of glioblastoma cancer stem cell function"
01/01/13 – 12/31/13

Jeff Leonard
Children’s Discovery Institute (PI: Weber)
"TARGETING NUCLEAR PROTEIN INTERACTIONS IN PEDIATRIC GILOMAS"
02/01/13 – 01/31/15

Eric Leuthardt
Bear Cub
"The Light Speed Flow Monitor— A Novel Nanotechnology Solution for Detecting Flow Rates in the Body"
March 2013

Greg Zipfel
Tonus Therapeutics
"The effects of gsmtx4 on cerebral vasospasm after subarachnoid hemorrhage in mice"
05/01/13 – 08/01/13

Source: Toni Kozemski (Awards by PI)
HE WAS A PERSON WHO WAS REVERED BY THE RESIDENTS WHO HE TRAINED
2012-2013 Year-end Awards

Dr. Albert Kim received the 2013 Faculty Teaching Award, voted on by the residents in recognition of outstanding achievement in resident instruction and teaching.

Dr. Chester Yarbrough received the 2013 Resident Teaching Award in recognition of outstanding achievement in instruction and teaching. He was selected by third- and fourth-year medical students who rotated on neurosurgery during the 2012-2013 academic year.

Dr. Kathleen McCoy received the 2013 Robert L. Grubb Jr. Award for Clinical Excellence in recognition of her teamwork and excellent clinical skills, diligently and consistently applied in the compassionate care of neurosurgical patients.

Jacob Greenberg received the 2013 Medical Student Research Award in recognition of outstanding clinical research in neurological surgery.

Eric Milner received the 2013 Medical Student Research Award in recognition of outstanding basic science research in neurological surgery.

Congratulations to the 2013 Chiefs, Manish Shah and Ivan Stoev, and the awardees!
Fourth graders spend a day as “neurosurgeons”

August 29, 2013
By Dawn Weinstock

On June 7th, two fourth graders from Reed Elementary School in Ladue were “Neurosurgeons for a Day”. “Neurosurgeon for a Day” was an experience placed on Reed School’s auction by Dawn Weinstock, Albert Kim, and Mike Chicoine, all of whom have kids at the school. There was a bidding war, but in the end, Talia Varticovski, an aspiring surgeon, won the prize and invited her friend Eleanor Horenberg to come along. The girls had an amazing day. After changing into scrubs, they started out in Dr. Eric Leuthardt’s lab looking at the robotic arm, the hands-off video game, and even testing out the EEG machine. After Dr. Leuthardt’s lab, they headed over to Dr. Kim’s lab where he explained his research to the girls, showed them the cells he was growing, and let them look through the microscope. Following lunch in Queeny Tower Restaurant, the girls headed to the OR. Kathy Draeg explained OR policy and procedures and showed the girls an empty operating room. They had the chance to lie on an operating table and get a patient’s eye view. They loved seeing themselves in their operating face masks and glasses. Our 2-hour tour turned into a 4-hour tour and we got rave reviews from the kids and parents who have already asked for it to be on the auction again next year!

Upcoming Events
- October 19-23, 2013
  CNS Annual Meeting
- October 29-31, 2013
  Visiting Professor, Dr. Robert Harbaugh
  (Pennsylvania State University)
- November 16, 2013
  Residency Applicant Interview
- November 23, 2013
  Residency Applicant Interview
- December 10, 2013
  Residency Applicant Interview
- January 7, 2014
  Residency Applicant Interview
- January 28-30, 2014
  Visiting Professor, Dr. James Markert
  (University of Alabama at Birmingham)