On Match Day, it’s a family (medicine) affair
By Tracie White

Just before 9 a.m. on March 15, Danica Lomeli, 28, a soon-to-be MD, stood huddled with a crowd of family members, waiting to open the white envelope gripped in her shaking hands. Her mom, dad, brother, cousins and best friend glanced curiously at the envelope that would play an important role in shaping Lomeli’s future — the result of years of hard work and sacrifice in her quest to become a family doctor.

“I vividly remember a beautiful spring day years ago in Baltimore when I went through this,” said Eric Sibley, MD, PhD, the faculty adviser handing out this year’s Match Day envelopes. Academy Awards-style, in a room filled with Stanford medical students anxiously awaiting the news of where they would be spending the next four to seven years of their lives as residents.

“You may now open the envelopes,” Sibley said at exactly 9 a.m., after all the students had been handed a white envelope with their names printed on the outside. And the tearing began.

Lomeli and 90 other Stanford graduating medical students had gathered at the Li Ka Shing Center for Learning and Knowledge at the same time as thousands of other medical students across the country for the annual celebration that occurs each March. Along with family, friends and faculty,

Stem cells use signal orientation to guide division, study shows
By Krista Conger

Cells in the body need to be acutely aware of their surroundings. A signal from one direction may cause a cell to react in a very different way than if it had come from another direction. Unfortunately for researchers, such vital directional cues are lost when cells are removed from their natural environment to grow in an artificial broth of nutrients and growth factors.

Now, researchers at the School of Medicine and the Howard Hughes Medical Institute have devised a way to mimic in the laboratory the spatially oriented signaling that cells normally experience. Using the technique, they’ve found that the location of a “divide now” signal on the membrane of a mouse embryonic stem cell governs where in that cell the plane of division occurs. It also determines which of two daughter cells remains a stem cell and which will become a progenitor cell to replace or

‘Clinical trials in a dish’ show promise in measuring drug effects on heart, scientists say
By Krista Conger

In a new study, researchers at the School of Medicine describe a “clinical trial in a dish” that uses patient-specific induced pluripotent stem, or iPS, cells to predict whether a drug will dangerously interact with the heart, even before a trial in patients.

The technique is described in a study published March 20 in Science Translational Medicine. Testing the new imaging method in humans is probably three to five years off.

Human and animal trials in which stem cells were injected into cardiac tissue to treat severe heart attacks or substantial heart failure have largely yielded poor results, said Sam Gambhir, PhD, MD, senior author of the study and professor and chair of radiology. “We’re arguing that the

Researchers track stem cells in heart using nanoparticles
By Bruce Goldman

The promise of repairing damaged hearts through regenerative medicine — infusing stem cells into the heart in the hope that these cells will replace worn out or damaged tissue — has yet to meet with clinical success. But a highly sensitive visualization technique developed by School of Medicine scientists may help speed that promise’s realization.

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Flexible behaviors focus of April 2 talk

Cori Bargmann

Neurobiologist Cori Bargmann, PhD, will deliver the annual Katharine D. McCormick Distinguished Lecture on April 2. Her talk will be titled “Behavioral States and Flexible Behaviors.”

Bargmann studies the tiny worm known as C. elegans to test whether determined traits in an organism’s behavior are determined by genes, and which are influenced by experience.

The lecture is scheduled at 4 p.m. April 2 in Berg Hall at the Li Ka Shing Center for Learning and Knowledge.

The event is free, but registration is required by going to https://www.onlineregistrationcenter.com/register. The code is: D29-29.

Bargmann earned a bachelor’s degree in biochemistry from the University of Georgia and a PhD from the Massachusetts Institute of Technology, where she was the widow of renowned cancer scientist Robert Weinberg at the Whitehead Institute for Biomedical Research. After a postdoctoral fellowship with Robert Horvitz, a winner of the 2002 Nobel Prize in Physiology or Medicine, she became a faculty member at the University of California-San Francisco.

In 2004, Bargmann joined Rockefeller University as the Torsten N. Wiesel Professor and associate director of the Whitehead Institute and Leon Levy Center for Brain, Behavior, and Biochemistry. She is also a Howard Hughes Medical Institute investigator.

The McCormick Lecture series began in 1974 with a bequest from Katharine McCormick. The task force made two recommendations to achieve this goal: remove the bill limit on medical-center-line facilities, while preserving it for university-wide and nonvolatile limits and limit the eligibility for on-campus housing in the medical-center-line to those at the rank of full professor.

Regular senate meeting

Ann Arvin, MD, the university’s vice provost and dean for research, discussed in a presentation the responsibilities and goals of her office, including the impacts of multi-disciplinary research at Stanford and the opportunites for medical school faculty to get involved in the research and governance of the institutes at the university.

Arnold Milstein, MD, a professor of medicine and director of the Stanford Clinical Excellence Research Center, also presented. He stressed the importance of incorporating teaching about cost-effective and efficient health-care delivery systems into the curriculum for medical students.

The next senate meeting is scheduled for April 16.
Hundreds of School of Medi- cine employees will be honored April 3 for their dedicated work and accomplishments.

The annual Dean’s Recognition Celebration in the Li Ka Shing Cen- ter for Learning and Knowledge will salute 426 employees who are marking their five, 10, 15, 20, 25, 30, 35 and 40 years of service.

In addition, three employees will receive awards for making a significant difference to their own departments and pro- grams as well as to the broader school community.

The Inspiring Change Leadership Award, which will be given to Rhonda McClinton-Brown, recognizes a staff member who has helped make “trans- formative improvements in service, ef- ficiency, value, effectiveness, outcome or satisfaction” for an entire work group or department. The Dean’s Spirit Awards honor one exempt and one nonexempt employee for their contributions to the school’s mission and vision. This year’s recipients are Jzesern Tan and Walter Damm. Each of the three award winners will receive a cash prize of $1,500.

Rhonda McClinton-Brown

Six years ago, when the search com- mittee began looking for the first ex- empt director for the school’s Office of Community Health its members knew they needed someone special to foster strong relationships between the university and the community, which are crucial for its mission: to develop and promote education, research and clinical training programs aimed at building leaders in community health and improve the health of un- derrepresented populations. The commit- tee also knew who they hoped would fill that leadership position: Rhonda McClinton-Brown.

“We knew Rhonda from her stellar reputation in the community, where she really is known to be a ‘go to’ clinician,” noted the office’s faculty director Marilyn Winkleby, PhD, MPH, in her letter nominating Brown for the award.

As the executive director of Community Health Partnership of Santa Clara County, an organization of nonprofit com- munity health organizations, the city of San Jose and the Santa Clara Valley Health and Hospital Systems, Brown had also served on the Office of Community Health’s advisory board since it was founded in 2005 and taught several courses on campus, too.

After their favorite candidate stepped into the office’s leadership role, associate dean Ann Baidasoff, MSW, MPH, wrote in her letter of support, “I breathed a tremendous sigh of relief. Rhonda was exactly the right person to take on this new position.”

Although Brown said she wasn’t looking for a change when she got re- cruited, she also thought it might be the right new challenge. “I felt I could bring much of what I had learned to these facets of the job, working in the trenches, doing their work in the community,” she said, adding that she particularly wanted to work “at the school’s many contributions “because Stanford isn’t known for all the great things we do in the community. We’re known for our research in the ba- sics sciences and our specialty clinics.”

Since Brown came to the Office of Community Health, Baidasoff credited her for using a “process-and-rela- tionship-oriented style,” which meant taking the time to ask questions of faculty, students, staff and community members before developing an action plan. That approach enabled Brown to establish and strengthen clinical, educational and research partnerships with more than 25 health-related agencies in San Mateo and Santa Clara Counties. In addition, she initiated seed grants and set up workshops for community-based research. Baidasoff said Brown also was instrumental in saving the student-run Pacific Free Clinic by revamping the administra- tive oversight to ensure smooth opera- tions and sustainability.

“He has developed because Rhonda and her staff have partnered with our local communities, re- sponded to their unmet health needs and leveraged resources at Stanford to help them enhance the health of the poor and under served. Few people can ever do this in their lifetimes — Rhonda has done this in the short time she has been at Stanford,” wrote Winkleby.

But, Brown isn’t stopping to smell the roses. While roses are her favorite flowers, the success of her work mo- tivates her to continuously increase their reach. “That’s what I do,” said Brown. “I bring people together.”

Jzesern Tan

Until now, faculty affairs admin- istrator Jzesern Tan has been an “un- sung powerhouse” in the Department of Molecular and Cellular Physiology. He’s the go-to person for everything from ordering products and setting up labs, to writing grants and recruiting faculty, wrote assistant professor Lucy O’Brien, PhD, in a letter to the award committee.

While his organizational skills are greatly valued, Tan’s colleagues equally appreciate the reliability, resourceful- ness, and enthusiasm he brings to his work. “Jzesern has never said that something can’t be done,” noted Kris- tina Micheva, a senior research scientist in the department.

That positive attitude carried the entire department through a recruitment effort two years ago for two new faculty members, said Tan’s supervisor Elisabeth Einaudi, director of finance and administration, in her nomination letter. He’d never done a faculty search, so Tan consulted other depart- ments, developed a protocol and then launched a massive outreach effort that garnered twice the number of ap- plicants that another leading school received at about the same time. Tan didn’t stop there; he smoothed the se- lection process for committee mem- bers and assigned himself to the newbies to ensure an easy transition. “I like to work smarter, not harder,” said Tan. His organizational secret is “to put in as little legwork as pos- sible and make every project self-sus- taining.” He also solicits ideas from everyone; good or bad, he learns from them. Tan believes his background in film production gave him the creative, problem-solving skills that enabled his successful transition to Stanford four years ago.

Tan also credits his supervisor, Ein-audi, for helping him acclimate to the university environment. “She always finds a way to make my good ideas even better,” said Tan, and then con- tinued with a smile in his voice, “And she never stopped me from doing anything I wanted to do.”

The annual pie-baking contest was one of Tan’s ideas. Faculty and staff throughout the department contrib- ute pies that are judged and then, of course, eaten. Making pies may be the only thing he’s not able to organize well. Tan admitted he’s “really bad” at making pie crust. But, he’s researched new techniques and is optimistic about this year’s contest entry.

Walter Damm

It isn’t typical to find those who like to work with numbers as much as they like to work with people, but Walter Damm has distinguished himself by doing both, with pleasure. A finan- cial analyst with the Department of Surgery for the past six years, his co- workers know him as a man who never says “no.”

His patient, helpful nature, pro- fessionalism and “willingness to walk with you through whatever you need to understand,” earned him a hand full of nominations for the Spirit Award.

Walter has one of the best atti- tudes I’ve ever seen, always remain- ing positive, accepting any work that needs to be done, covering what needs to be covered, whether or not it’s his “job,” said Stephanie Edelman, the department’s director of finance and administration, in her testimonial.

He sees himself as a “people per- son,” not just a numbers guy. With that outlook, Damm said his job just grew into a position where people would call him for general financial information, too. If he didn’t have the answer, he wanted to find it for him- self as well.

“He’s become a trainer for all in- coming division managers and fi- nancial staff, providing them with as much training as they need; he covers for many of them when they go on vacation, holding down the fort for weeks at a time, even though he has his own deadlines and responsibilities to meet,” Edelman added.

But Damm doesn’t see anything remarkable about his actions. When- ever the department was short-handed, it seemed natural to step up to handle the additional work. “It works both ways,” he said. “If you let it go, it’s more work for everyone. But if you keep up, it’s just a matter of handing everything over.”

His favorite accomplishment is teaching someone a skill or a process, and then finding they don’t need him anymore. “It’s nice to know they can go on and do things on their own,” said Damm.

“Walter is the type of person every department wants, in spades!” wrote his supervisor, associate director of finance Sree Gupta, in her letter of commendation.

Fortunately for the surgery depart- ment, Damm really enjoys working with people and loves his job. “There’s never a day that I wake up and don’t want to go to work,” he said.

Elizabeth Devitt is a science-writing in- tern for the school’s Office of Communica- tion & Public Affairs.

School of Medicine employees who will be honored for 35 years of serv- ice are:

ELLA DOYLE, lab glassware washer, Department of Microbiology and Immunology

DOLLY KAGAWA, operations manager, Department of Surgery/Emergency Medicine

SHERYL KENDALL, senior financial analyst, Controller’s Office

MARY PALMER, trainer/educator/research process manager, Research Management Group

DEBRA SCHUECH, associate controller, Controller’s Office

Those being honored for 40 years of service are:

BARRABARA HILK, lab assistant, Depart- ment of Developmental Biology

WENDY LEONG, senior clinical labora- tory scientist, Department of Pathol- ogy/Stanford Blood Center

MELCHOR MADRIGAL, maintenance worker, Department of Comparative Medicine/Veterinary Service Center

ZERA MURPHY, director of student life, Office of Student Services

LYNN OLDS, life science research as- sistant, Department of Pediatrics/Gastroenterology

ANICA RUDLER, administrative associ- ate, Department of Genetics

Celebration to honor staff award winners

By Elizabeth Devitt

Rhonda McClinton-Brown

Walter Damm

Jzesern Tan

Honor roll

Inside Stanford Medicine March 25, 2013
the students arrived in dresses and heels, suits and ties — some with babies and proud parents in tow — to learn their future. Nearby, champagne glasses sat waiting.

The tradition is both an exciting and somewhat stressful affair, with the residency assignments ultimately determined by a nonprofit organization, the National Resident Matching Program. The group uses a computer algorithm to align the choices of the applicants with those of the residency programs.

"I couldn’t believe they did it this way," said Leah Newman, whose boyfriend, Nico Grundmann — an almost-graduate of Stanford’s MD and MBA programs — was hoping to match in either Oakland or Brooklyn, NY, in emergency medicine. Nerves kept them both somewhat sleepless the night before. (Soon they’d find out they’d be making New York their home.)

"It’s very strange not to know until you get the envelope," Grundmann said.

At about 8:30 a.m., Charles Prober, MD, senior associate dean for medical education, addressed the group, teasing them with snippets of information about education, addressed the group, teasing

March 25, 2013            Inside Stanford Medicine

With the annual average at Stanford since 2007 has been just two to three.) Each of them are very interested in changing the way medicine is practiced in the U.S. from the grass roots level up."

Prober was referring to a new and growing emphasis on primary care within the medical field as a whole, spurred by a variety of factors, including a nationwide shortage of primary care physicians, the Affordable Care Act leading to millions of newly insured patients and the crisis of burgeoning health-care costs. Through the new health-care law, the federal government has increased financial incentives to make training in primary care, which traditionally pays significantly less than specialty medicine, more attractive.

"The writing is all over the wall that we as a country need primary care, and family medicine is really where most primary care doctors come," said Erika Schilling, MD, clinical associate professor of medicine and director of pediatric education for family medicine, who was thrilled that eight students matched in family medicine residencies at UCLA. Stanford had almost half of its medical students match in residencies for general medicine this year.

"Medical students come to Stanford wanting to be leaders and innovators," Schilling said. "I see lots of exciting things happening in family medicine, and these are the kids who can do it. Stanford has traditionally been known for graduating leaders in research. There is lots of room for research in primary care delivery. There is no end of questions to be asked and answered, particularly around health-care delivery in communities."

Lomeli and a friend and fellow student, Raymond Tsai, are good examples of students who hope to work in family medicine and within communities as front-line physicians and leaders in research.

"I’m excited about the future of medicine, about my role as a family physician," said Tsai. (He writes about his scope, Stanford’s medical blog.) "I think everyone is intuitively looking at primary care for answers, particularly for prevention of chronic illness. It’s time to deliver on that promise."

But first, there were the envelopes to be opened.

"The future of medicine is to have people like Danica comprehensively treating the patient and controlling costs," he said, smiling at his daughter proudly. "Medicine needs to change for the benefit of the patient."

At the same time, the entire room burst into applause, and tears and screams, as all the envelopes were opened. Medical students hugged parents and children, cameras flashed, cell phones lit up.

And, finally, the crowd headed out to the lobby, where the champagne glasses stood ready.

1) Charles Prober, senior associate dean for medical education, talks to the Stanford medical students before the ceremony begins on March 15. 2) Faculty adviser Eric Sibley prepares to hand out the envelopes with the "match" information. Medical students around the country opened their envelopes at the same time. 3) Raymond Tsai hugs Danica Lomeli after they both learn they’ll be doing their family medicine residencies at UCLA. Stanford had almost half of its medical students match in residencies for general medicine this year, a much higher number than in previous years. 4) Sarah Balm shows off her envelope at Match Day. She will be doing a residency in pediatric neurology at Stanford. 5) Medical school Dean Lloyd Minor chats with students Naima Mahmoud (left) and Eric Lortac before the envelopes are handed out. Stanford students fared well on Match Day, with 70 percent receiving their first choice and 85 percent matching to one of their top three choices. 6) Medical student Kerry-Ann Stewart calls a friend after finding out that she will be going to USC.
Homero Rivas is the only surgeon in northern California trained in the latest surgical treatment for achalasia, an unusual tightening of the muscles at the lower end of the esophagus. Surgeons tried a couple of standard endoscopic procedures, which didn't work, either.

Eventually, she wound up relegated to a bed at home, with a feeding tube inserted through her nose as her only means of staying alive. Her son, Clint, was distraught. “I thought, ‘We're losing her,’” he said. “I got mad. I said, ‘Find somebody! Do something!’ And that’s when her doctors called Dr. Rivas.”

Homero Rivas is a digestive surgeon and Stanford’s director of innovative surgery. His specialty is minimally invasive surgery that has advanced beyond the laparoscopic approach, which relies on multiple small incisions, to procedures like the one he performed on McFadden: per oral endoscopic myotomy, or POEM, which involves no external incisions.

POEM is the latest treatment for achalasia, inspired by Pankaj Jay Pasricha, a former chair of the Stanford Department of Gastroenterology; perfected in the last two years by a Japanese surgeon; and now performed by a small number of surgeons around the world, including Rivas. He is the only surgeon in Northern California trained in the procedure, which he learned while visiting Japan to train surgeons, including POEM’s pioneer, in advanced laparoscopic techniques. He and the other surgeons got to talking about their craft. Rivas said he would be happy to trade his teaching for learning POEM. He was eager to learn the procedure because he believed in the value of this type of minimally invasive surgery — and because of the suffering he had seen in patients who had sought a permanent form of treatment for their achalasia.

“The quality of life of someone who cannot eat is horrible,” Rivas said. “We take eating for granted until the time you have difficulty eating — and that’s what lots of people experience. It’s like torture because you know you feel thirsty, that you feel hungry, yet you feel scared because whenever you eat, you’re going to feel discomfort or vomiting. It can be very miserable.”

Sometimes medication can help, including Botox, which can relax muscles, but that’s typically a temporary solution that lasts only a few months. Another option is to widen the opening using a uterine tube that’s inserted and then inflated. But the procedure is challenging and the results often unpredictable. “As surgeons, we prefer more definitive approaches,” Rivas said.

Conventional surgery and laparoscopic surgery can improve this condition, yet they require incisions and, consequently, some pain for patients. In the POEM procedure, however, surgeons insert a narrow tube into the patient’s esophagus and then slip a tool through a tiny incision in the esophageal lining to reach and then cut the constricted fibers at the base of the esophagus. There is no residual pain or visible scarring.

“It’s such a rewarding procedure because, with something very simple, you make a huge impact on someone’s life,” Rivas said. “And for everyone, the less physical insult you give a patient in an operation, the faster they will recover.”

As impressed as he was with Rivas’ resume, Clint McFadden was still concerned about his mother’s age and her ability to recover from surgery. Rivas had told him that his mother would be the oldest patient on whom the procedure had been done, but he was confident she would be fine, especially after he met her. The surgery took three hours in McFadden’s case because her condition was of such long standing that Rivas needed more time to release the tightened muscles.

She stayed in the hospital two days (most people stay only overnight), and since then has bounced back completely, although she has followed Rivas’ instructions to reintroduce foods to her diet at her own pace. “And a lot of it has to do with food. If anybody wants to go somewhere, I’m ready!”

She also has been sharing her new knowledge about achalasia and the POEM procedure. “To think that I wasted all that time without going to a doctor. If anybody has any hesitation about any swallowing thing, it’s best to take care of it because it’s curable.”

Sara Wykes is a writer in the communications office at Stanford Hospital & Clinics.
"Our hope is that, instead of a physi- properties than human heart tissue.)

and because they beat at different rates and different electrophysiological pro-

"In the future, this may become a standard way to test drug safety."

However, hERG is just one of many cell lines or hamster ovary cells. (Tissue from animal hearts is not a good option because they beat at different rates and have different electrophysiological properties than human heart tissue.)

Although neither of these cells are heart cells, they are genetically engi- samples from people with and without inherited cardiac diseases, such as hypertrophic cardiomyopathy, familial dilated cardiomyopathy and hereditary long QT syndrome. The skin cells were then differentiated into beating heart cells so that the researchers could easily grow and study them. (The researchers used a simi- lar technique to create heart cells from a human embry-

Joe Wu and his colleagues have found that testing drugs for heart toxicity on patient-specific cells created in a lab dish may provide more accuracy than the screening methods that are currently used.

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tracking continued from page 1

sional Council and the separation of voting on grants, the role of dependent Citizen's oversight Committee will investigate the neurons' responses involving children who don't have the disorders. In neuron samples from a control group of children with autism spectrum disorders. Induced pluripotent stem cells made from children who don't have the disorders will help establish California as a world leader in embryonic stem cell research and development and in the growth and maintenance of stem cells. The stem cells have many receptors for Wnt that have been identified, and researchers are starting to explore promote self-renewal over differentiation in several types of stem cells.

Habib attach proteins to Mesenchymal protein to tiny synthetic beads and incubated the beads with embryonic stem cells. He then observed the reaction over time of the cells to which a single bead-bound protein was attached via one of the cells' many Wnt receptors.

The effect of the localized signal was clear. In 75 percent of cases, the stem cell began to divide in a very specific orientation, which occurred perpendicularly to the location of the incoming signal. In contrast, only 12 percent of cells exposed to beads did not grow into a control protein exhibited similar patterns of division.

Habib and his colleagues also found that the daughter cell closest to the Wnt3a signal expressed proteins that marked stem cells so they can be tracked. It pays off.

"Our goal now is to have the focus be on the work that we do, that the IOM and our partners helped establish California as a world leader in stem cell research," said Campbell, who is now a professor of chemical and systems biology Tobias Meyer, PhD.

The researchers would like to extend their studies to other types of stem cells, as well as to cells that have mutations in other components known to affect cell polarity.

Other Sanford co-authors include postdoctoral scholar Feng-Chiao Tsai, MD, PhD, and professor of chemical and systems biology Tobias Meyer, PhD. The research was funded by the National Institutes of Health, the California Institute for Regenerative Medicine, the Howard Hughes Medical Institute and the National Institutes of Health.

"Sometimes taking risks pays off," said Gambhir. "We got lucky.

"We found that these two processes, division and differentiation, are coupled," said Nunis. "In real life, the cell is exposed to many signals at once. By using just one protein and just one cell, we can clearly see that the cell's division is aligned to the signal's direction, which is vital for pluripotent. The other is from that signal; it begins to differentiate."
By Sara Wykes

Brian Grone, PhD, has brains and brawn. He can tell you how acute light exposure suppresses circadian rhythms in clock gene expression. But for fun, the School of Medicine postdoctoral scholar likes to toss a 17-foot-long, 75-pound wooden pole into the air, end over end.

Otherwise known as caber tossing, that pole-flipping is an event in a competitive genre called Scottish heavy athletics — and Grone, along with several others in the Stanford Medicine community, are members of the Cardinal Highland Athletic Club, formed serendipitously several years ago in much the same way Grone came to be a member.

"I saw cabers out here by a tree, and saw Alan around with the kilt and made the connection," Grone said. Alan Hebert is a computer research associate at the Beckman Center for Molecular and Genetic Medicine, which isn’t too far from the Sand Hill Road recreational fields where the team practices twice a week. Hebert is the team’s unofficial recruiter, but the sport really sells itself.

"For some people, it’s the heritage,” Hebert said. “There really is something to be said for picking up a weight and knowing that 120 years before, somebody else with a kilt did the same thing." Hebert is talking about the most modern tradition of the games, though these kinds of sports have taken place for many centuries.

Others, like Brady Weissbourd, a Stanford PhD candidate in biology and onetime captain of Harvard’s volleyball team, find appeal in the physical challenge. “It’s basic strength,” Weissbourd said. "Who can throw this heavy rock the farthest? It’s also fun and a good way to get out of the lab.”

Stanford Blood Center phlebotomist Bethany Owen once loved dressing up for Highland games as a spectator, but after her first few tries at throwing, discarded her corset for a kilt and the thrill of it all. Small distances between flung objects can separate finishers. “We call them the ‘oooh-ahh’ events," Owen said, “the ones the crowd really gets into — and we all cheer for each other.”

The club’s next competitive outing will be April 6 at the Tartan Day Scottish Faire at Ardenwood Historic Farm in Fremont. For more information about the team, visit http://cmgm.stanford.edu/~ahebert/cardinalhighlanders/index.html.

Top: Postdoctoral scholar Brian Grone practices the weight throw, a sport in Scottish heavy athletics. Bottom: Hebert takes a timeout from training to get in a few licks from a team member’s pooch.

Bioengineer Markus Covert awarded $1.5 million grant

Markus Covert, PhD, assistant professor of bioengineering, has been awarded a $1.5 million Distinguished Investigator exploratory grant from the Paul G. Allen Family Foundation.

Covert was one of five recipients of this year’s award, which, according to the foundation, “aims to unlock fundamental questions in biology.”

Covert’s research involves building complex computer models of living organisms. Last year, he announced completion of the world’s first whole-cell computer model of a simple bacterium. The three-year grant will support Covert’s ongoing work to develop models of cells of increasing complexity, including human cells.

“Recently our lab built a computer model that takes every single gene into account for a single cell, but we still have a long way to go before this technology is ready to apply to complex organisms,” said Covert. “The Allen Foundation’s generous award will enable us to solve some of the most critical challenges posed by more complicated cells.”

The competitive Allen Distinguished Investigators program funds only a handful of ambitious, creative projects each year — the kind that do not typically receive support from traditional sources. This year’s winners were united in pursuing questions of cellular decision-making and modeling of dynamic biological systems, said the Allen Foundation in a press release.

“I’ve always been drawn to the big open questions of science. But the pioneering scientists working to answer them can’t promise quick discoveries and often find it difficult to get funding from traditional sources,” said philanthropist Paul Allen, founder and board chairman of the foundation.

“For us to make progress, we must take risks and invest now in this early stage, cutting-edge research.”

“It’s a real thrill to get an award like this alongside other awardees that I greatly admire, and especially from Paul Allen, whose cutting-edge innovations have had such an impact on computation and the world,” Covert said.

OF NOTE

MARIUS WERNIG, MD, PhD, has been selected as the recipient of the fifth annual International Society for Stem Cell Research-University of Pittsburgh Outstanding Young Investigator Award in 2013. He is recognized for his research demonstrating that previously specified cell types, a determined directly to other, distantly related cell types, a discovery that has transformed the field of cellular reprogramming.

Wernig, as assistant professor of pathology, will receive his award and present his latest research at the ISSCR annual meeting in Boston on June 15.

STEPHEN ROTH, MD, MPH, professor of pediatric cardiology, has been elected to a second consecutive term on the board of directors of the Pediatric Cardiac Intensive Care Society. The society is an international nonprofit organization whose mission is to promote excellence in pediatric cardiac critical care. Roth is the James Baxter Wood and Yvonne Craig Wood Endowed Director for the Pediatric CIVICU and chief of the Division of Pediatric Cardiology at Lucile Packard Children’s Hospital.

Stephen Roth

Markus Covert

Markus Wernig