Healthcare Heroes

SPECIAL SUPPLEMENT TO THE SILICON VALLEY/SAN JOSE BUSINESS JOURNAL | MAY 11, 2012
Robotic arms could help stroke patients relearn movements

BY DAVID GULL

Jacob Rosen, a professor at the University of California, Santa Cruz, is engaged in pushing the envelope on research into robotic surgery and providing mechanical help for people trying to recover from the ravages of stroke.

For more than a decade, Rosen and a former colleague from the University of Washington have been involved in creating robots, the Raven I and Raven II, that can assist surgeons with on-site and remote procedures. That includes on the battlefield, as he received a $1.2 million grant from the U.S. Army for his research to help develop the robots for use by military surgeons. At UCSC, he has been engaged in research to create exoskeleton structures stroke patients can wear on both arms to help them relearn movements lost as a result of blood flow to the brain being interrupted.

Neither product has yet been commercialized. But for all of Rosen’s academic accomplishments, he graciously gives credit to three mentors whom he said had a profound effect on his professional life.

Those three mentors not only imparted the value of hard work, but of spending those long hours working on projects to improve people’s lives.

Rosen said his first significant mentor, Mircea Arcan, a professor of engineering at Tel Aviv University, helped him develop a deep interest in biomedical engineering during his undergraduate days in his native Israel.

“He planted the seed in me that anything you do should have a positive effect on someone’s life,” Rosen said.

Arcan also instilled in Rosen the proper attitude a scientist needs to make progress and push that envelope open a little wider.

“He had an outstanding scientific intuition,” he said. “Any results you would show to him, he would look at it with skepticism. He would send it back if it didn’t make sense to him.”

Rosen, associate professor at the UC Santa Cruz Department of Computer Engineering for the past four years, met his second and third mentors during the previous seven years on the engineering faculty of the University of Washington at Seattle. There, he met Blake Hannaford, director of UW’s biorobotics laboratory and Mika Sinanan, a general surgeon at the university’s medical center.

“Blake is a dreamer and taught me how to dream as a scientist,” he said. “As a surgeon, Mika taught me the value of practicalities, how to put something in his hands that was really useful. If not, he would throw it away.”

Rosen has poured their inspiration and his boundless energy into his work perfecting two robotic surgery systems called the Raven I and II, built initially to help U.S. Army surgeons conduct surgical procedures in the field of combat. Today, he sees applications for civilian surgeons doing remote surgical procedures via the Internet. He recently took the unorthodox step of sharing his surgical robot in open-source agreements with rival researchers at UCLA, Harvard University, Johns Hopkins University, the University of Nebraska and the University of California, Berkeley.

He can talk at length about the Raven II, an aluminum and stainless steel creation that sort of resembles a car engine. Same for his other major career achievement, an exoskeleton creation that can be used to help stroke patients recover use of their arms, or those with muscular dystrophy to increase their muscle tone and strength.

“Stroke patients wear the exoskeleton on both arms to facilitate movement,” he said. “In order to regain movement, you need to have a mirror image, to have the healthy side drive the paralyzed side.”

Rosen said his most difficult career challenge today is integrating more human characteristics into his robotic systems as a way to make them more valuable and “intuitive” for the surgeons using them.

Hearing been the recipient of what he considers beneficial career direction and advice, Rosen now is in the position to become a mentor himself.

“I’m excited about training a new generation of students to become proficient in robotics,” said Rosen, who teaches classes on Models of Robotic Manipulation. “Since I am getting paid by the public to teach classes, they have a right to expect something valuable for their investment.”

Art Ramirez, in his third year as Baskin School dean, said Rosen has the qualities he encourages among his faculty members as he builds a more high-profile program at UCSC.

“Jacob Rosen’s research on the creation of robots to assist surgeons operating remotely is an exemplar of what we at the Baskin School of Engineering are hoping to achieve, namely game-changing technology with high social impact,” he said. “Jacob is taking this a step further in helping other universities, through his open-source arrangement, join in the development of these critical tools. In essence, he is enabling the enablers.”
Saluting Health Care Heroes Finalists

The Board, Administration, Medical Staff, co-workers and volunteers of Good Samaritan Hospital salute the achievements of our finalists for the second annual Silicon Valley/San Jose Business Journal Health Care Heroes. They represent the aspirations each of us has every day to deliver quality care and improve our communities.

Susan W. Hayes, President & CEO
ReSurge International
Trustee Finalist

Janice Bremis, Founder
Eating Disorders Resource Center
Community Advocate Finalist

Congratulations to Good Sam’s Non-Finalist Nominees:
Reza Malek MD
Audrey Poulson RN

Judging panel had tough job, 80 nominations

BY SHANA LYNCH

Welcome to the second edition of our Health Care Heroes publication. Since this special started, we’ve received great response from our readers and the health care community. In year two, we’re keeping the same tradition of finding the best doctors, nurses, researchers, board members and other practitioners in the health care industry. We received more than 80 nominations from our business community in nine categories. Then we promptly handed those nominations over to our Health Care Heroes judges to select the top three finalists in each category.

I’d like to thank each of them for dedicating their time to selecting these finalists. Their help was indispensable.

Our judges were:

Dr. Enoch Choi
Dr. Choi is a Palo Alto Medical Foundation physician and head of the Enoch Choi Foundation, which works to send doctors and nurses into disaster areas to provide much-needed emergency health care.

Fred Ferrer
As CEO of The Health Trust, Ferrer works to provide community services such as Meals on Wheels, family health insurance and dental services. The nonprofit also provides $2.6 million in grants each year to support healthy communities.

Kathleen King
King is executive director of Santa Clara Family Health Foundation, which raises funds to provide health care to children in Santa Clara County.

Sarah Muller
Muller is director of government affairs and communications at California Association of Public Hospitals, a nonprofit that represents 18 public hospital systems across the state.

Thanks to their help, we narrowed a competitive pool to the top three in every category. Except in the Young Leader category, where competition was so fierce our judges couldn’t agree. There you will find two amazing winners.

I hope you enjoy this section and discover more about those who are considered tops in their profession this year. If you have any questions about the process (or have a good candidate for next year’s publication), send me a note or give me a call.

SHANA LYNCH can be reached at 408.299.1831 or slynch@bizjournals.com.
Publisher’s note

Dear reader,

Welcome to the second edition of our Health Care Heroes special publication. In these pages are the stories of people for whom the term “hero” might be an understatement. They dedicate their lives to improving the health and wellness of the residents of Silicon Valley. Find out about robotics researchers creating cutting edge medical technology (page 30 and 31). Meet a doctor who takes health care to Santa Clara County’s teen homeless population (page 22). Find out about a nurse who began her career as a midwife in Eritrea and now trains hundreds of nurses (page 21).

Make sure you read about Santa Clara County’s health officer who started AIDS health clinics that influenced the state and the nation (page 9). And then learn more about a Kaiser physician-in-chief who launched a very Silicon Valley-like innovation program — part employee suggestion box, part venture capital firm (page 6).

These amazing individuals are not ones to label themselves heroes. In fact, Assistant Managing Editor Shana Lynch had to convince two of them that they deserved the recognition.

But as you read their stories, you’ll understand why our selection committee chose these health care professionals for the 2012 Health Care Heroes special.

I’d personally like to thank our judges: Dr. Enosh Chol, Santa Clara Family Health Foundation Executive Director Kathleen King, Health Trust CEO Fred Ferrer, and Sarah Muller, California Association of Public Health Officers and Health Systems Director of government affairs.

I’d like to thank our sponsors, title sponsor Focus Business Bank and partner sponsors the Daughters of Charity Health System, Stanford Hospital & Clinics, El Camino Hospital, Lucile Packard Children’s Hospital at Stanford, Kaiser Permanente, the University of San Francisco, and our partner organization the Hospital Council of Northern and Central California.

As always, I want to hear from you. Send feedback to jmgregor@bizjournals.com or 408.299.1801.

Best,

James MacGregor
Publisher

Association sponsor letter

The Hospital Council of Northern and Central California is proud to join the Silicon Valley/San Jose Business Journal in participating in the Health Care Heroes Awards, honoring health care professionals. We hold these outstanding individuals who provide quality care to patients and their loved ones deserve special recognition.

In Silicon Valley, we are fortunate to have a unique health care delivery system that is among the best in the state. There are many factors that allow us to have top-quality health care, such as our state-of-the-art facilities, technological investment, and clinical advances; however, we believe these count for little without exceptional people. What truly makes our health care system great is the people who deliver these services.

Those nominated for the Health Care Heroes award have dedicated their lives to giving the best care possible to their patients. These professionals include not only frontline staff, such as physicians and nurses, they are also the people who keep our hospitals running—hospital social workers, lab technicians, dietary staff, radiology technicians, volunteers, community partners, and administrators. The Hospital Council’s mission is to help our members provide high-quality health care and improve the health status of our communities. Every person working to see and care for patients is a hero to us!

We applaud the Silicon Valley/San Jose Business Journal for their willingness to highlight the health care field and the talented individuals who provide quality health care to our families, friends, and community. Thank you and congratulations to our Health Care Heroes.

Art Sponsor
President/CEO
Hospital Council of Northern and Central California

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