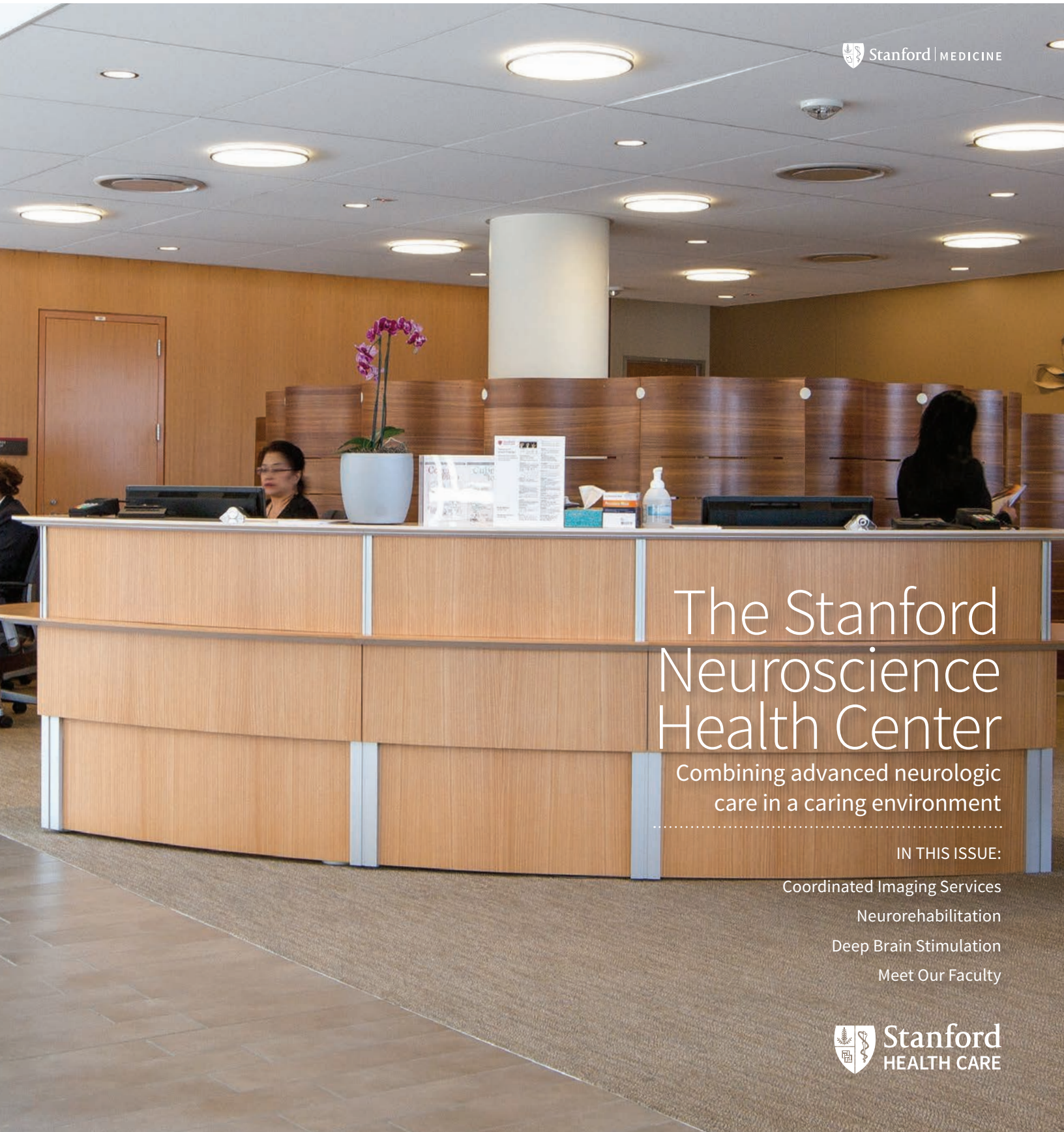
stanfordaccess

A Stanford Health Care publication for our community physicians

NEUROSCIENCE SPECIAL 2016



The Stanford Neuroscience Health Center

Combining advanced neurologic care in a caring environment

IN THIS ISSUE:

Stanford HEALTH CARE

Cover Story

The Stanford Neuroscience Health Center

Page 3

Physician Liaisons

MD HELPLINE 866.742.4811

Jocylyn Corpuz
Cardiovascular Health / Cancer
650.421.5346
jcorpuz@stanfordhealthcare.org

Sheila Galuppo
Radiology
650.862.2199
sgaluppo@stanfordhealthcare.org

Paige Kron
Other
650.421.1919
pkron@stanfordhealthcare.org

Pat Martinez
Transplant
650.804.1691
pmartinez@stanfordhealthcare.org

Sheri Schmidt
Central Valley
559.326.3305
sschmidt@stanfordhealthcare.org

Elizabeth Sheridan
Radiology
650.739.5729
esheridan@stanfordhealthcare.org

Carol Stepanich
Neurosciences / CyberKnife
650.804.9247
cstepanich@stanfordhealthcare.org

Jama Stratton
Other
831.431.0518
jstratton@stanfordhealthcare.org

Heather Thomas
University HealthCare Alliance
650.850.1430
hthomas@stanfordhealthcare.org

Nick Zambruno
Primary Care / Orthopaedics
650.683.5892
nzambruno@stanfordhealthcare.org

Contents

Stanford Neuroscience Health Center

One Place for all Neurological Care

21
Neuroscience subspecialties

Over 200 neuroscience subspecialty doctors

First clinical PET/MRI to detect diagnostic details other MRIs can't

NATIONAL INSTITUTES OF HEALTH

Alzheimer's Disease Research Center

Named in 2015 as one of NIH Alzheimer's Disease Centers, with exclusive designation as an Alzheimer's Disease Research Center.

PATIENT CENTERED CARE

Single check-in for all appointments

Dimmer switches respect patients with light sensitivities

Wider hallways accommodate patients and families together

Clinical trials investigators share space with clinicians

Autonomic Lab locates where the nervous system is impaired

Innovative Clinical Trials

using Stem Cell Transplants for Stroke, Traumatic Brain Injury and Spinal Cord Injury Patients

Wellness Center helps patients restore function to the body & mind

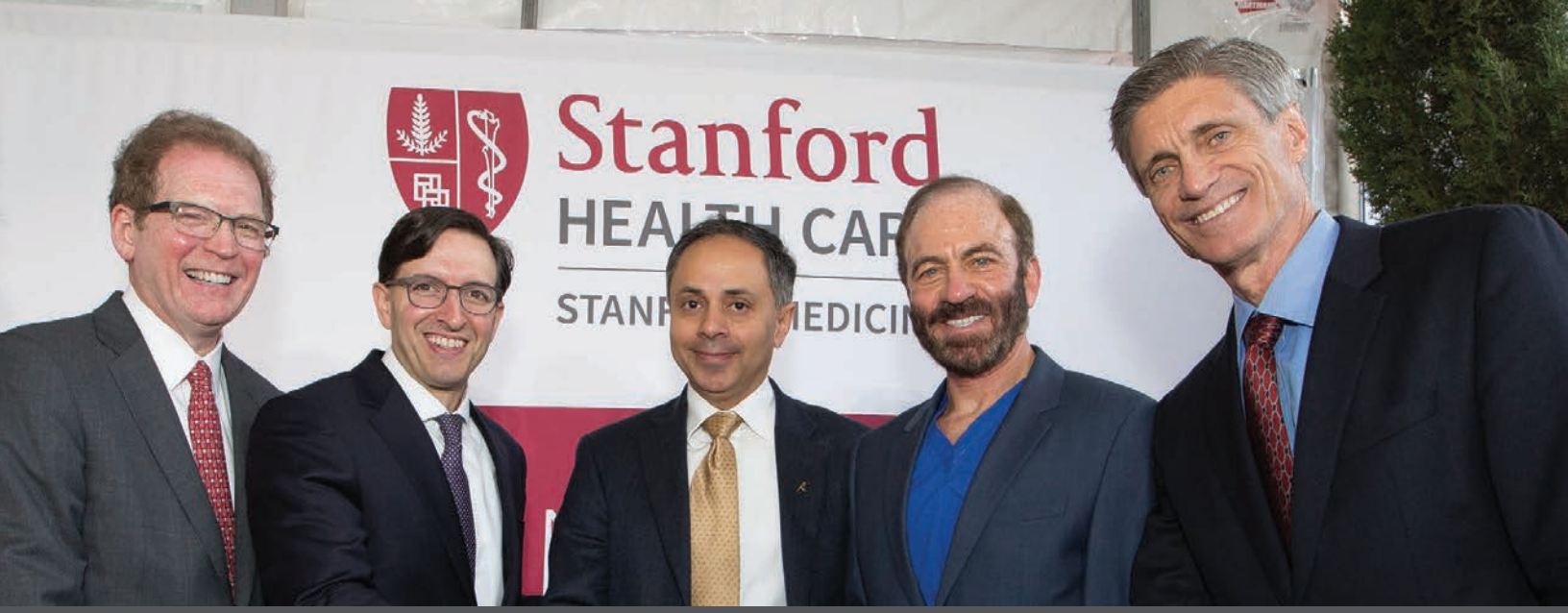
REGAINING MOBILITY

Balance Lab evaluates movement disorders to guide recovery

Zero Gravity machine supports walking recovery, safety and mobility restoration

Practice Car helps patients restore driving privileges

Mobility Garden lets patients practice walking in a natural setting to regain independence



At the Stanford Neuroscience Health Center ribbon cutting (L to R): Dean Lloyd B. Minor, MD; Former CEO Amir Dan Rubin; Sanjiv Sam Gambhir, MD, PhD; Gary K. Steinberg, MD, PhD; Frank M. Longo, MD, PhD.

Making a Vision Reality: A Conversation with Neurosciences Leadership at Stanford

With Frank M. Longo, MD, PhD; Gary K. Steinberg, MD, PhD; Max Wintermark, MD; and Sanjiv Sam Gambhir, MD, PhD

Why did Stanford Health Care build the new Neuroscience Health Center?

Frank M. Longo, MD, PhD: Many of our neurology and neurosurgery patients often need care in several ways—maybe a CT scan, a visit with a doctor and a session with a physical therapist. The traditional version of that care has been to have services at different locations. We felt it was important to have all our specialized care teams together in one place.

Gary K. Steinberg, MD, PhD: The impairments that accompany patients with neurologic disease and illness can make it difficult for them to navigate to different places. As a leader in patient-centered care, we wanted to integrate all our services into one location to create an optimal patient experience where people feel that doctors are coming to them, not the other way around.

What sets the Stanford Neurosciences Health Center apart from other similar centers?

Sanjiv Sam Gambhir, MD, PhD: This state-of-the-art facility has been designed to support patients throughout their journey of care. It brings together neurologists, neurosurgeons, interventional neuroradiologists and other care providers from 21 neuroscience subspecialties to work side-by-side, allowing teams to share their expertise and information rapidly.

Max Wintermark, MD: We are one of the first, if not the only center in the country, where patients with neurological disorders can get the same integrated, coordinated approach to care that you find in many cancer centers. Patients will be able to come into one place, on one day, see their clinician, get the testing and imaging they need, and then discuss their results. That will make a big difference for our patients.

How did you come up with these unique features?

FL: We created a special neuroscience advisory council made up of patients and family members, and included them in the building design and development process. Understanding their unique perspectives and hearing their ideas from the very start, before interior layouts were finalized, was a key factor in designing a patient-centered building and care experience.

GS: When the development of the Stanford Neuroscience Health Center was first being discussed, we talked about creating an environment that would not only provide comprehensive care in a single facility, but one that would be developed with a deep understanding of the special challenges faced by neurological patients.

All of these features are good for patients. How does this building benefit doctors?

FL: The Center brings together people who may have had some interaction before, but never experienced direct collaboration. This will be the first time we've gathered all these neurological fields together. I am sure that entirely new approaches to patient care will evolve because we have all of these disciplines together under one roof.

GS: One of the advantages of Stanford has always been the presence of people doing groundbreaking work in many fields. New ideas are born because we run into each other by accident. In this Center, it won't be an accident. ■

What's Inside?

The Stanford Neuroscience Health Center brings together multiple subspecialties under one roof for coordinated, collaborative patient care and treatment. Clinics include:

- Brain Aneurysm Clinic
- Brain Tumor Center
- Comprehensive Epilepsy Program
- Cyberknife Stereotactic Radiosurgery Program
- Deep Brain Stimulation Program
- General Neurology Clinic
- Interventional Neuroradiology Program
- Memory Disorders Center
- Movement Disorders Center
- Moyamoya Center
- Multiple Sclerosis Center
- Neurocritical Care Program
- Neurodiagnostic Labs
- Neurogenetic Oncology Program
- Neurological Spine Disorders Clinic
- Neuromuscular Program
- Neuropsychology Clinic
- Neurosurgery Outreach Clinics
- Outpatient Neurologic Rehabilitation Program
- Peripheral Nerve Surgery Program
- Pituitary Center
- Stroke Center
- Vascular Malformations Clinic

Cover Story

The Stanford Neuroscience Health Center

Combining advanced neurologic care with a caring environment

This past January, a new chapter in caring for patients with neurological disorders began as the Stanford Neuroscience Health Center opened its doors. This first-of-its-kind comprehensive care center brings together the three pillars of neurological care—neurology, neurosurgery and interventional neuroradiology—under one roof to transform how patients with neurological conditions or injuries such as brain tumors, movement disorders, brain aneurysms, spine deterioration, Parkinson's disease, stroke and memory disorders are diagnosed, treated and cared for.

Sharing space in this 92,000 square foot, five-floor facility, are providers from 21 neuroscience subspecialties who now work side-by-side, sharing their expertise and information rapidly in a highly collaborative environment.

"One of the great advantages of having all these specialists in one place is that we can assume a multidisciplinary approach to the patient, not just in theory, but in reality," said NHC Co-Leader Gary K. Steinberg, MD, PhD, the Bernard and Ronni Lacroute-William Randolph Hearst Professor in Neurosurgery and Neurosciences and professor and chair of neurosurgery. "Integrating outpatient services into one convenient location results in more accurate diagnoses, organized care, better quality of life and improved outcomes for the patient."

To get it just right, Stanford chose to build the new center from the ground up, and it enlisted input from the very people who would spend their days within its walls—clinicians, researchers and patient and families.

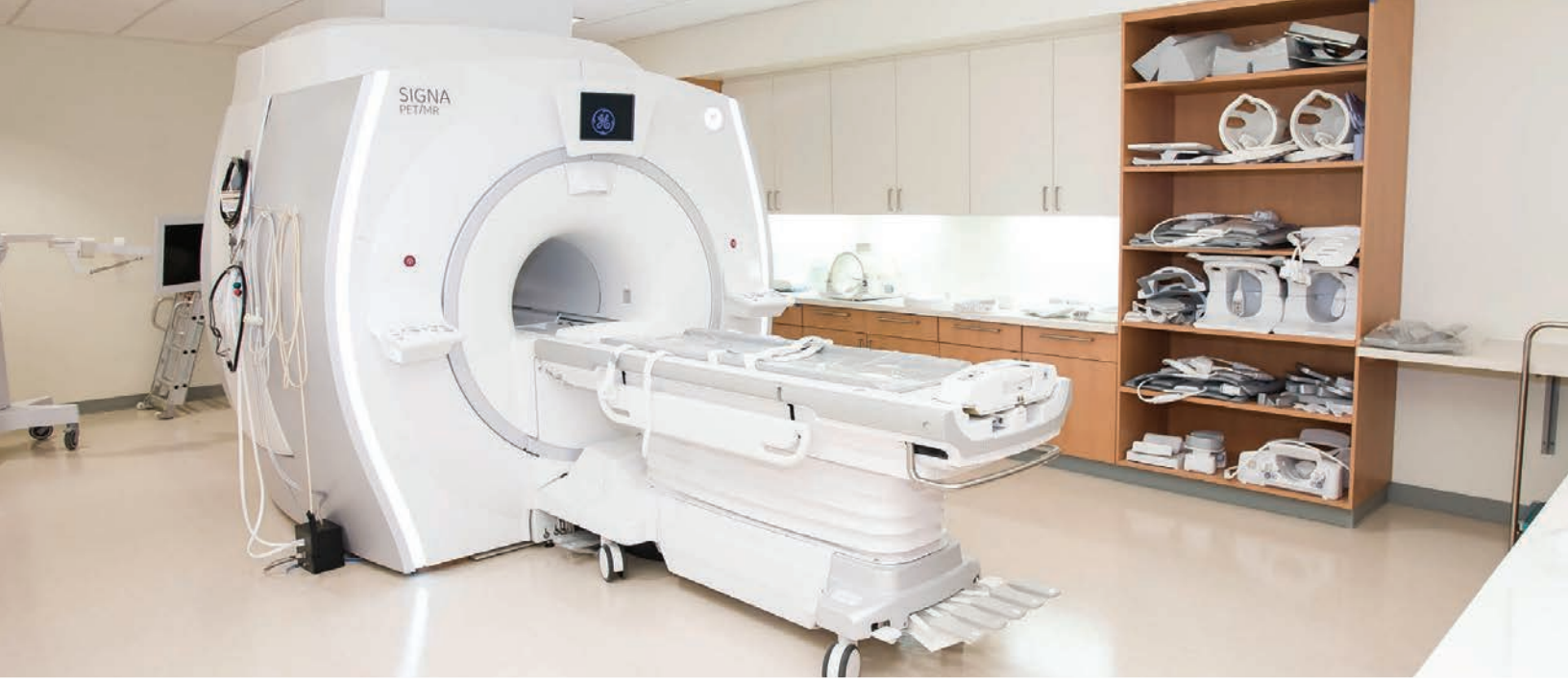
"This building is the result of incredible collaboration of patients, architects, our physicians and other care team members who have helped to inform every aspect of the design to deliver the best possible experience for neuroscience patients and their families," said Alison Kerr, Vice President, Neuroscience Service Line, Psychiatry & Behavioral Sciences and Operations at Stanford Health Care and one of the center's project leaders.

The Patient and Family Advisory Council (PFAC), a group of 12 patients who have been treated for neurological disorders, and their family members, were instrumental in guiding critical elements of the building integrity that help the patient journey. They informed decisions impacting both operational and design elements, including creating a single check-in for multiple appointments, larger exam rooms, wider doors and hallways, sturdier chairs and floors organized logically to reduce the distance patients must cover moving from place to place.

"The life of a neuroscience patient can be extremely difficult, and having a seat at the table to give a patient's perspective on every detail from the flooring to the wall colors to the types of chairs is incredibly empowering," said Paula Holwell, chair of the Stanford Neuroscience PFAC.

"We want our patients to come to our center and immediately recognize that it was designed to respond to their unique challenges in ways they have never seen in a care facility," said the center's co-leader Frank M. Longo, MD, PhD, the George and Lucy Becker Professor in Medicine and professor and chair of neurology and neurological sciences.

Beyond its patient-centered design, the new center offers patients access to advanced diagnostic techniques, the latest treatments and groundbreaking clinical trials, some of which are not available anywhere else in the world. The center also includes an Autonomic Lab with one of the first clinical care thermoregulatory sweat labs in the nation and the first dedicated clinical PET/MRI. It also houses a dedicated neurorehabilitation space with a balance lab, a kinematic lab, an outdoor mobility garden and a wellness center, and is home to an established NIH Alzheimer's Disease Research Center and a clinical trials research area. ■



Coordinated Imaging Services

All in One Location

For people living with neurological disorders like epilepsy and Alzheimer's, it is common to undergo multiple tests to diagnosis and manage their condition. In reality this often means patients might undergo an MRI in one location on one day, and then subsequently be sent for a PET study on a different day in a different location, with long periods of waiting for results and follow-up appointments in between.

In the new Stanford Neuroscience Health Center on Quarry Road, all of those services are located under one roof. Patients can receive imaging studies on the ground floor of the 92,000-square-foot facility, and then head upstairs for clinic or rehabilitation appointments or to the procedure area or infusion suite. That means, parking once and checking in once for multiple appointments and tests.

"Almost every patient with a neurological disorder will need imaging," said Max Wintermark, MD, professor of radiology and chief of neuroradiology. "The convenience factor of offering imaging in the same location where patients are seen in clinics cannot be underestimated. In the new center, we're able to offer patients integrated, coordinated care that very practically reduces the amount of time they spend waiting."

Combined Technology

The ground floor imaging suite brings together a full complement of modalities such as CT, Fluoroscopy, General Radiography and Ultrasound. "While the technology itself is not revolutionary," said Wintermark, "Stanford has invested in the latest, most advanced equipment, which allows us to have higher image quality while administering lower doses of radiation to our patients."

What is new in imaging is the addition of a Positron Emission Tomography/Magnetic Resonance Imaging (PET/MRI) machine for clinical use. PET/MRI produces images that are more accurate and detailed than in either technology alone, and with less radiation exposure than a PET/CT scan. It gives doctors simultaneous information about the brain in an incredibly precise manner, helping to improve overall diagnosis and treatment options, said Wintermark. The new technology will help assess a variety of disorders that require doctors

to look at both anatomy and function of the brain, including epilepsy and seizures, memory disorders like Alzheimer's and brain tumors.

In the past, use of the PET/MRI was limited to a small number of patients involved in very specific research protocols. "Having a PET/MRI at the Neuroscience Health Center will make a big difference in the number and type of patients who are able to benefit from this advanced technology," said Wintermark. "It will also stimulate research, and allow for much faster translation of new findings to the clinical side."

"Many of the new imaging strategies being developed in our Department are being translated into first-in-man studies, including studies for the PET/MR scanner," said Sanjiv Sam Gambhir MD, PhD, chair of radiology. "This will help patients with neurological disorders receive state-of-art care for years to come." ■

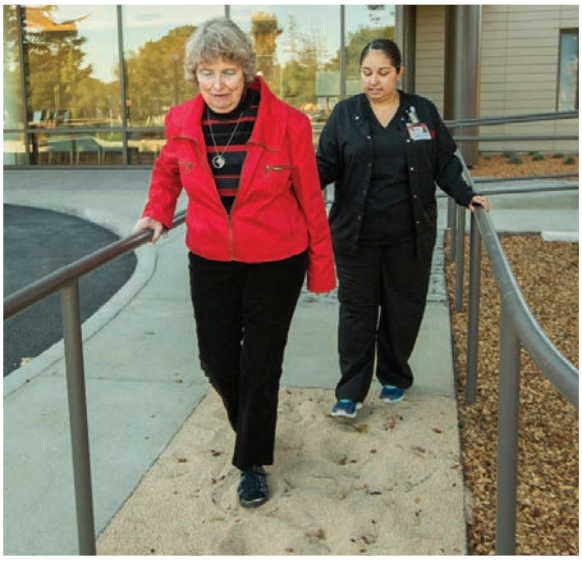
Neurorehabilitation

Helping patients maximize function

Unlike many medical conditions, where treatment often leads to cure, a neurologic disorder can require months or years of medical care and rehabilitation services. From the Wellness Center dance studio to the advanced gait testing, to the balance lab and outdoor mobility garden, the comprehensive Neurorehabilitation Services offered at the new Neuroscience Health Center have one collective goal in common: to help patients restore lost function and maximize mobility.

Because each patient's treatment path is different, the Stanford neuro rehabilitation team works together with doctors in a variety of specialties to develop therapy plans that help restore function, control movement and improve balance to prevent further injury. For patients with balance problems, a team at the Balance Center works together with experts in neurology, neuro-otology and rehabilitation medicine to diagnose the underlying causes of balance problems and develop a treatment plan.

"The Balance Center at Stanford is unique in that it's an interdisciplinary program, rather than a purely vestibular center," said Helen Bronte-Stewart, MD, director of the Stanford Movement Disorders Center. The Balance Center shares the first floor with neuromuscular and movement



disorder specialists in a strategic co-locating of services. "We're excited to broaden our ability to work across disciplines in the new Neuroscience Health Center," said Bronte-Stewart, the John E. Cahill Professor, Department of Neurology and Neurological Sciences. "Here, we have everybody working together with these very complicated and sometimes rare disorders, especially those conditions that overlap between movement and neuromuscular disorders."

Her colleague, Yuen So, MD, professor and chief, Neurology Clinics, specializes in treating complex patients, many with previously undiagnosed neuromuscular disorders. "What we are

particularly good at is our ability to look at a complex case, use what we know, listen to patients and design further testing to reach a diagnosis," said So, a professor of neurology.

Neurorehabilitation also relies upon the kinematic lab to measure and test fine motor skills and gait. Using gait right mat technology, and wearable sensors, the kinematic lab team can provide very accurate, quantitative spatial measurements of gait and timing.

"That's very important in the treatment of neurological diseases like Parkinson's," said Bronte-Stewart. "It's important not only for diagnosis, but also for monitoring the effects of treatment such as medication and deep brain stimulation."

Rounding out the neurorehabilitation area is an exercise room filled with specialty equipment, a body-weight support system to hold up patients during therapy, soundproof rooms for speech therapy, a driving simulation console and an outdoor mobility garden where patients can practice navigating over a variety of outdoor surfaces. The Wellness Center studio, located just inside the center's front doors, is home to restorative classes such as dance, yoga and Tai Chi, and will be used for group classes on turning and walking mechanics and fall prevention.

"We see neurorehabilitation as a much more integrated science that will serve the whole of the neurological community," said Bronte-Stewart. "I think that is going to be very obvious to patients when they come in. They're going to see this big beautiful space where a lot of people are working on different types of rehab." ■

Deep Brain Stimulation

Bringing relief to patients with movement disorders

For people who suffer from movement disorders like tremor and Parkinson's, medication is typically the cornerstone of treatment. Medications, however, don't work forever. When they fail, or when their side effects become problematic, a minimally invasive surgical approach—deep brain stimulation (DBS)—is bringing relief to people with movement disorders, psychiatric disorders, seizures and certain types of chronic pain.

DBS is helping many people regain the sense of control and predictability they lost with their disease. Typically, people with Parkinson's disease who undergo DBS surgery at Stanford have a 60 to 90 percent improvement in their symptoms and a 60 to 100 percent reduction in medication use. The procedure is most effective for people who have responded well to medication, but whose ability to live their lives normally has been severely hampered by medication side effects.

"The success of treatment outcomes at Stanford relies on the expertise and experience of our movement disorders neurologists who program DBS devices and adjust medication accordingly," said Dr. Helen Bronte-Stewart, chief of Stanford Movement Disorder programs.

To implant a DBS device, surgeons place an MRI-guided wire into a targeted brain structure. At the tip of that wire are four small electrodes that release electrical impulses to block tremor. The wires are connected to a two-inch by three-inch battery pack. That pack sits under the skin in the chest, just as

cardiac pacemakers do. The surgery is done in the awake state, so surgeon and patient can see the effects of the procedure in real time.

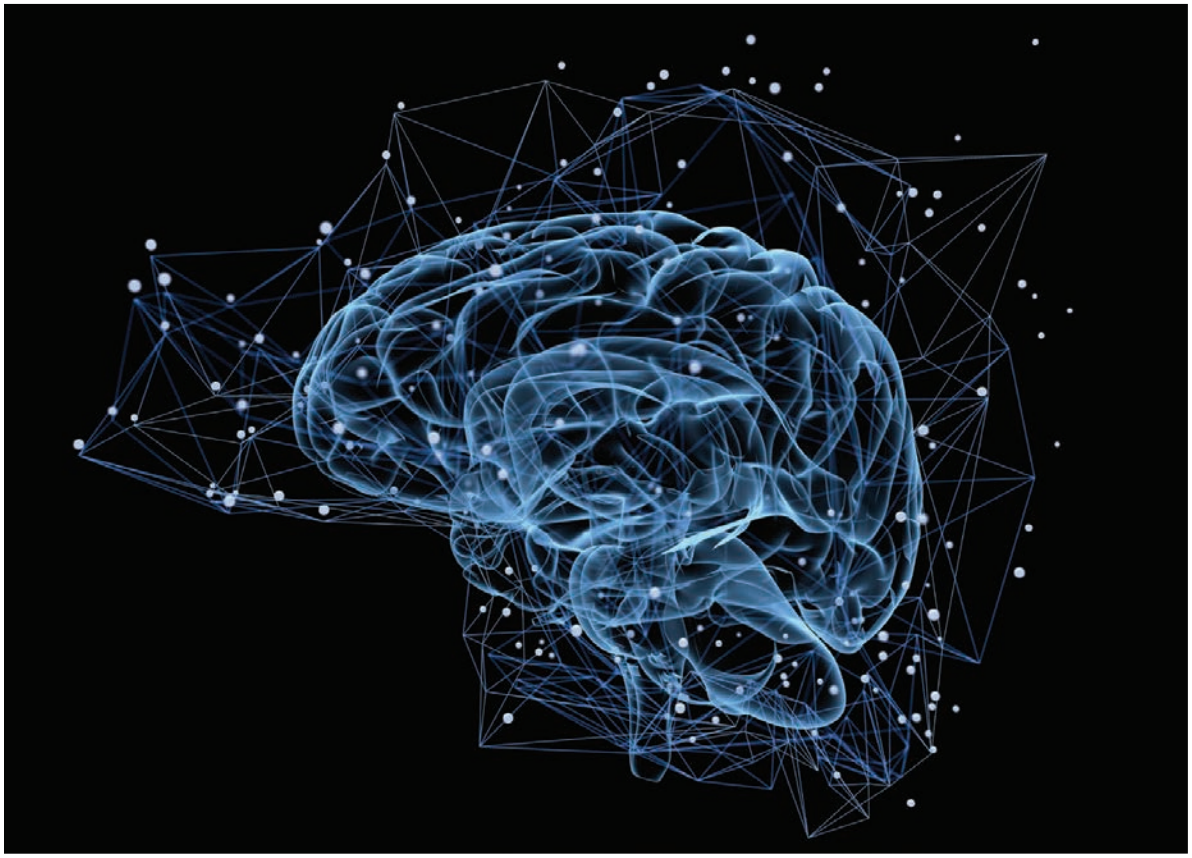
Stanford's Stereotactic and Functional Neurosurgery Program, directed by Jaimie Henderson, MD, is leading the program's expansion of DBS application. One of its members, Casey Halpern, MD, assistant professor of neurosurgery, has already been successful in treating patients with obsessive-compulsive disorders (OCD) with a standard DBS device.

"If a millimeter-sized electrode can have such an incredible effect on a medical condition like tremor and Parkinson's Disease," Halpern said, "why couldn't it do something so much different, but something just as effective, in a different part of the brain for a different brain-related medical condition?"

With that idea in mind, Halpern has turned his research to applying three kinds of brain stimulation devices to obesity, binge eating disorder and addiction.

"While frightened of the prospect of brain surgery at first, most patients come to find their experience transformative," said Halpern. "They feel like they're able to be a team member in their own medical care."

"In a non-lesional, nondestructive way, DBS is able to transform these patient's lives into what many would say is almost feeling completely normal," said Halpern. "To be able to have that kind of effect on patients has been what inspires me every day to continue with this kind of specialty." ■



Meet Our Faculty

STANFORD MEDICINE PHYSICIANS & RESEARCHERS

Neurosurgery

Gary K. Steinberg, MD, PhD, Chairman
Bernard and Ronni Lacroute–William Randolph Hearst Professor in Neurosurgery and the Neurosciences and Professor, by courtesy, of Neurology

John Adler, MD
The Dorothy and Thye King Chan Professor in Neurosurgery, Emeritus

Marion S. Buckwalter, MD, PhD
Assistant Professor, Neurology and Neurosurgery

Pak H. Chan, PhD
James R. Doty Professor in Neurosurgery and the Neurosciences, Emeritus

Steven D. Chang, MD
Robert C. and Jeannette Powell Professor in the Neurosciences in the Department of Neurosurgery

Lu Chen, PhD
Associate Professor, Neurosurgery and Psychiatry and Behavioral Sciences

Samuel Cheshier, MD, PhD
Assistant Professor, Neurosurgery and, by courtesy, of Neurology & Neurological Sciences

E.J. Chichilnisky, PhD
John R. Adler Professor of Neurosurgery

Yoon-Jae Cho, MD
Assistant Professor, Neurology and of Neurosurgery

Bohdan W. Chopko, MD, PhD
Clinical Associate Professor, Neurosurgery

Graham H. Creasey, MD
Paralyzed Veterans of America Professor, Spinal Cord Injury Medicine

Atman Desai, MD
Clinical Assistant Professor, Neurosurgery

Jun Ding, PhD
Assistant Professor, Neurosurgery and, by courtesy, of Neurology

James R. Doty, MD, FACS, FICS, FAANS
Clinical Professor, Neurosurgery

Michael S.B. Edwards, MD, FAANS, FACS, FAAP
Lucile Packard Children's Hospital Professor in Pediatric Neurosurgery and Professor, by courtesy, of Pediatrics

Jamshid Ghajar, MD, PhD, FACS
Clinical Professor, Neurosurgery

Gerald Grant, MD, FACS, FAANS
Associate Professor, Neurosurgery and, by courtesy, of Neurology
Division Chief, Pediatric Neurosurgery
Vice-Chair for Pediatric Neurosurgery

Casey H. Halpern, MD
Assistant Professor, Neurosurgery and, by courtesy, of Neurology and Psychiatry

Ciara D. Harraher, MD, MPH, FRCSC
Clinical Assistant Professor, Neurosurgery

Odette A. Harris, MD, MPH
Associate Professor, Neurosurgery at the Palo Alto Veterans Affairs Health Care System

Griffith Harsh IV, MD, MBA
Associate Dean, Post-Graduate Medical Education
Professor, Neurosurgery and, by courtesy, of Otolaryngology-Head and Neck Surgery
Vice-Chair for Education

Melanie Hayden Gephart, MD, MAS
Assistant Professor, Neurosurgery

Jaimie M. Henderson, MD
John and Jene Blume–Robert and Ruth Halperin Professor and Professor of Neurosurgery and, by courtesy, of Neurology

Laurence Katznelson, MD
Associate Dean, Graduate Medical Education
Professor, Neurosurgery and Medicine

Jin Hyung Lee, PhD
Assistant Professor, Neurology, Neurosurgery and Bioengineering and, by courtesy, of Electrical Engineering

Marco Lee, MD, PhD
Chief, Santa Clara Valley Medical Center
Clinical Assistant Professor, Neurosurgery

Josh Levin, MD
Clinical Assistant Professor of PM&R Section, Orthopaedic Surgery and Neurosurgery

Gordon Li, MD
Assistant Professor, Neurosurgery and, by courtesy, Neurology

Jason I. Lifshutz, MD
Clinical Associate Professor, Neurosurgery

Jessica Little, PhD
Clinical Assistant Professor, Neurosurgery

Judith Murovic, MD
Clinical Assistant Professor, Neurosurgery

Theo Palmer, PhD
Associate Professor, Neurosurgery
Vice-Chair for Basic Research

Jon Park, MD, FRCSC
Associate Professor, Neurosurgery

Randal Peoples, MD, MS
Clinical Associate Professor, Neurosurgery

Giles Plant, PhD
Associate Professor, Neurosurgery

John Ratliff, MD, FACS
Associate Professor, Neurosurgery
Vice-Chair for Clinical Operations and Development

Robert Sapolsky, PhD
John A. and Cynthia Fry Gunn Professor and Professor, Neurology and Neurosurgery

Gregory Scherrer, PhD
Assistant Professor, Anesthesiology, Neurosurgery and, by courtesy, of Molecular and Cellular Physiology

Merhdad Shamloo, PhD
Associate Professor, Neurosurgery and, by courtesy, of Comparative Medicine and Neurology

Lawrence Shuer, MD
Professor, Neurosurgery
Vice-Chair for Quality Improvement

Harminder Singh, MD
Clinical Assistant Professor, Neurosurgery

Stephen L. Skirboll, MD
Chief, Veteran Affairs
Associate Professor, Neurosurgery

Ivan Soltesz, PhD
Professor, Neurosurgery
Vice-Chair for Translational Research

Peter Tass, MD, PhD
Consulting Professor, Neurosurgery

Suzanne Tharin, MD, PhD
Assistant Professor, Neurosurgery

Xinnan Wang, PhD
Associate Professor, Neurosurgery

Albert Wong, MD
Professor, Neurosurgery

Heng Zhao, PhD
Associate Professor, Neurosurgery

Neurology

Frank M. Longo, MD, PhD, Chairman
George E. and Lucy Becker Professor in Medicine; Professor, Neurology & Neurological Sciences and, by courtesy, Neurosurgery

Brajesh Agrawal, MD
Clinical Assistant Professor, (Affiliated) Neurology & Neurological Sciences at Santa Clara Valley Medical Center

Gregory Albers, MD
The Coyote Foundation Professor;
Professor, Neurology & Neurological Sciences and, by courtesy, Neurosurgery

Katrin Andreasson, MD
Professor, Neurology & Neurological Sciences

Sheena Aurora, MD
Clinical Associate Professor, Neurology & Neurological Sciences

Meredith Barad, MD
Clinical Assistant Professor, Anesthesiology, Perioperative and Pain Medicine and Neurology & Neurological Sciences

Ben Barres, MD, PhD
Professor, Neurobiology, Neurology & Neurological Sciences, Developmental Biology, and, by courtesy, Ophthalmology

John Barry, MD
Professor, Psychiatry and Behavioral Sciences and Neurology & Neurological Sciences

Shannon Beres, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Helen Bronte-Stewart, MD, MSE
John E. Cahill Family Professor; Professor, Neurology & Neurological Sciences and, by courtesy, Neurosurgery

Axel Brunger, PhD
Professor, Molecular & Cellular Physiology, Neurology & Neurological Sciences, Photon Science and, by courtesy, Structural Biology

Paul Buckmaster, DVM, PhD
Professor, Comparative Medicine and Neurology & Neurological Sciences

Marion Buckwalter, MD, PhD
Associate Professor, Neurology & Neurological Sciences and Neurosurgery

Cynthia Campen, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Steven Z. Chao, MD, PhD
Clinical Assistant Professor, (Affiliated) Neurology & Neurological Sciences at Palo Alto Veterans Affairs Health Care System

David Chen, MD
Clinical Assistant Professor, (Affiliated) Neurology & Neurological Sciences at Santa Clara Valley Medical Center

S. Charles Cho, MD
Clinical Professor, Neurology & Neurological Sciences and, by courtesy, Neurosergery

Yoon-Jae Cho, MD
Assistant Professor, Neurology & Neurological Sciences and, by courtesy, Neurosurgery

Sarah Copeland, MD
Clinical Assistant Professor, (Affiliated) Neurology & Neurological Sciences at Santa Clara Valley Medical Center

Robert Cowan, MD
Clinical Professor, Neurology & Neurological Sciences and, by courtesy, Anesthesiology, Perioperative and Pain Medicine

John Day, MD, PhD
Professor, Neurology & Neurological Sciences, Pediatrics and, by courtesy, Pathology

Joanna Dearlove, MD, MPH
Clinical Assistant Professor, Neurology & Neurological Sciences

Gayle Deutsch, PhD
Clinical Associate Professor, (Affiliated) Neurology & Neurological Sciences and Staff Neuropsychologist

Jun Ding, PhD
Assistant Professor, Neurosurgery and Neurology & Neurological Sciences

Leslie Dorfman, MD
Emeritus (Active) Professor, Neurology & Neurological Sciences

Lauren Drag, PhD
Clinical Instructor (Affiliated), Neurology & Neurological Sciences

Dawn Duane, MD
Clinical Associate Professor, Neurology & Neurological Sciences

Jeffrey Dunn, MD
Clinical Professor, Neurology & Neurological Sciences

Jorina Elbers, MD
Assistant Professor, Neurology & Neurological Sciences and, by courtesy, Neurosurgery at the Lucile Packard Children's Hospital

Anna Finley Caulfield, MD
Clinical Associate Professor, Neurology & Neurological Sciences

Paul G. Fisher, MD
Beirne Family Professor of Pediatric Neuro-Oncology; Professor, Neurology & Neurological Sciences, Pediatrics and, by courtesy, Neurosurgery; Bing Director of the Program in Human Biology

Robert Fisher, MD, PhD
The Maslah Saul Professor; Professor, Neurology & Neurological Sciences and, by courtesy, Neurosurgery

Kara Flavin, MD
Clinical Assistant Professor, Orthopaedic Surgery and Neurology & Neurological Sciences

Jeff Fraser, MD
Clinical Associate Professor, (Affiliated) Neurology & Neurological Sciences at Santa Clara Valley Medical Center

Paul George, MD, PhD
Instructor, Neurology & Neurological Sciences

Neelam Goyal, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Kevin Graber, MD
Clinical Associate Professor, Neurology & Neurological Sciences

Michael Greicius, MD, MPH
Associate Professor, Neurology & Neurological Sciences and, by courtesy, Psychiatry and Behavioral Sciences

Jin Hahn, MD
Professor, Neurology & Neurological Sciences, Pediatrics and, by courtesy, Neurosurgery

Scott Hamilton, PhD
Consulting Associate Professor, Neurology & Neurological Sciences

May Han, MD
Assistant Professor, Neurology & Neurological Sciences

Victor Henderson, MD, MS
Professor, Neurology & Neurological Sciences and Health Research and Policy

Peter Heublein, MD
Clinical Associate Professor, (Affiliated) Neurology & Neurological Sciences at Palo Alto Veterans Affairs Health Care System

Nada Hindiyeh, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Karen Hirsch, MD
Assistant Professor, Neurology & Neurological Sciences and, by courtesy, Neurosurgery

Kyle Hobbs, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Ting-Ting Huang, PhD
Associate Professor, Neurology & Neurological Sciences

John Huguenard, PhD
Professor, Neurology & Neurological Sciences and, by courtesy, Molecular and Cellular Physiology and Neurosurgery

Michelle James, PhD
Instructor, Neurology & Neurological Sciences and Radiology

Safwan Jaradeh, MD
Professor, Neurology & Neurological Sciences and, by courtesy, Psychiatry and Behavioral Sciences

Susy Jeng, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Peter Karzmark, PhD
Clinical Associate Professor, (Affiliated) Neurology & Neurological Sciences

Daniel Katzenberg, MD
Clinical Assistant Professor, (Affiliated) Neurology & Neurological Sciences at Santa Clara Valley Medical Center

Geoffrey Kerchner, MD, PhD
Consulting Associate Professor, Neurology & Neurological Sciences

Shannon Kilgore, MD
Clinical Assistant Professor, (Affiliated) Neurology & Neurological Sciences at Palo Alto Veterans Affairs Health Care System

Kathryn Kvam, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Maarten Lansberg, MD, PhD
Associate Professor, Neurology & Neurological Sciences and, by courtesy, Neurosurgery

Scheherazade Le, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Jin Hyung Lee, PhD
Assistant Professor, Neurology & Neurological Sciences, Neurosurgery and Bioengineering

Leslie Lee, MD
Clinical Associate Professor, Neurology & Neurological Sciences

Christopher Lee-Messer, MD, PhD
Clinical Assistant Professor, Neurology & Neurological Sciences

Leland Lim, MD
Clinical Assistant Professor, (Affiliated) Neurology & Neurological Sciences at Palo Alto Veterans Affairs Health Care System

Melanie Lising, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Ling Liu, PhD
Instructor, Neurology & Neurological Sciences

Seoni Llanes, PhD
Clinical Assistant Professor, (Affiliated) Neurology & Neurological Sciences

Christopher Lock, MBBS, PhD
Clinical Associate Professor, Neurology & Neurological Sciences

Jaime López, MD
Associate Professor, Neurology & Neurological Sciences and, by courtesy, Neurosurgery

Katherine Mackenzie, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Steven McIntire, MD, PhD
Consulting Professor, Neurology & Neurological Sciences

Kimford Meador, MD
Professor, Neurology & Neurological Sciences

Mitchell Miglis, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Michelle Monje-Deisseroth, MD, PhD
Assistant Professor, Neurology & Neurological Sciences and, by courtesy, Neurosurgery, Pediatrics and Pathology

Hokuto Morita, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Martha Morrell, MD
Clinical Professor, Neurology & Neurological Sciences

Srikanth Muppidi, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Seema Nagpal, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Viet Nguyen, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Donald Max Olson, MD
Associate Professor, Neurology & Neurological Sciences (Emeritus)

Sonia Partap, MD, MS
Clinical Assistant Professor, Neurology & Neurological Sciences

Josef Parvizi, MD, PhD
Associate Professor, Neurology & Neurological Sciences

Brenda Porter, MD, PhD
Associate Professor, Neurology & Neurological Sciences

Kathleen Poston, MD, MS
Assistant Professor, Neurology & Neurological Sciences and, by courtesy, Neurosurgery

David Prince, MD
Edward F. and Irene Thiele Pimley Professor; Professor, Neurology & Neurological Sciences

Thomas Rando, MD, PhD
Professor, Neurology & Neurological Sciences

Babak Razavi, MD, PhD
Clinical Assistant Professor, Neurology & Neurological Sciences

Lawrence Recht, MD
Professor, Neurology & Neurological Sciences and, by courtesy, Neurosurgery

Richard Reimer, MD
Associate Professor, Neurology & Neurological Sciences and, by courtesy, Molecular and Cellular Physiology

Kamala Rodrigues, MD
Clinical Assistant Professor, (Affiliated) Neurology & Neurological Sciences at Palo Alto Veterans Affairs Health Care System

Sarada Sakamuri, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Jacinda Sampson, MD, PhD
Clinical Associate Professor, Neurology & Neurological Sciences

Veronica Santini, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Robert Sapolsky, PhD
John A. and Cynthia Fry Gunn Professor; Professor, Biology, Neurology & Neurological Sciences, and Neurosurgery

Neil Schwartz, MD, PhD
Clinical Associate Professor, Neurology & Neurological Sciences and Neurosurgery

Sharon Sha, MD, MS
Clinical Assistant Professor, Neurology & Neurological Sciences

Carly Siskind, MS
Clinical Assistant Professor, (Affiliated) Neurology & Neurological Sciences and Senior Genetic Counselor

Yuen So, MD, PhD
Professor, Neurology & Neurological Sciences

Lawrence Steinman, MD
George A. Zimmermann Professor; Professor, Neurology & Neurological Sciences and Pediatrics

John Sum, MD
Clinical Associate Professor, (Affiliated) Neurology & Neurological Sciences at Santa Clara Valley Medical Center

Leon Tan, MD
Clinical Professor, (Affiliated) Neurology & Neurological Sciences at Santa Clara Valley Medical Center

Simon Tan, PsyD, MS
Clinical Assistant Professor, (Affiliated) Neurology & Neurological Sciences

Carolina Tesi Rocha, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

James Tetrud, MD
Clinical Professor, Neurology & Neurological Sciences

Darryl Thomander, PhD
Clinical Assistant Professor, (Affiliated) Neurology & Neurological Sciences

Reena Thomas, MD, PhD
Clinical Assistant Professor, Neurology & Neurological Sciences and Neurosurgery

Keith Van Haren, MD
Assistant Professor, Neurology & Neurological Sciences

Chitra Venkatasubramanian, MBBS, MD
Clinical Associate Professor, Neurology & Neurological Sciences and, by courtesy, Neurosurgery

Nirali Vora, MD
Clinical Assistant Professor, Neurology & Neurological Sciences

Joanna Wallace, PhD
Clinical Instructor, Neurology & Neurological Sciences

Juliane Winkelmann, MD
Professor, Neurology & Neurological Sciences

Courtney Wusthoff, MD
Assistant Professor, Neurology & Neurological Sciences and, by courtesy, Pediatrics (Neonatology)

Tony Wyss-Coray, PhD
Professor, Neurology & Neurological Sciences

Laurice Yang, MD, MHA
Clinical Assistant Professor, Neurology & Neurological Sciences

Yanmin Yang, MD, PhD
Associate Professor, Neurology & Neurological Sciences

Maya Yutsis, PhD
Clinical Assistant Professor, (Affiliated) Neurology & Neurological Sciences

Penelope Zeifert, PhD
Clinical Professor, (Affiliated) Neurology & Neurological Sciences; Chief, Neuropsychology Services; Co-Director, Stanford Center for Memory Disorders

Neuroimaging & Neurointerventional Radiology

Sanjiv Sam Gambhir, MD, PhD, Chairman
Virginia and D.K. Ludwig Professor for Clinical Investigation in Cancer Research; Professor, Radiology – Nuclear Medicine and, by courtesy, of Bioengineering and of Materials Science and Engineering; Chair, Department of Radiology

Patrick Barnes, MD
Professor, Radiology, Med Center Line and Pediatric Radiology; Chief, Pediatric Neuroradiology

Huy Do, MD
Professor, Radiology – Diagnostic Radiology and Med Center Line and, by courtesy, Neurosurgery

Robert Dodd, MD, PhD
Assistant Professor, Neurosurgery, Radiology and Med Center Line

Nancy Fischbein, MD
Professor, Radiology – Diagnostic Radiology and Med Center Line and, by courtesy, Otolaryngology (Head and Neck Surgery), Neurosurgery, and Neurology & Neurological Sciences

Jeremy Heit, MD
Clinical Instructor, Radiology – Diagnostic Radiology

Michael Iv, MD
Clinical Assistant Professor, Radiology – Diagnostic Radiology

Christine Kim, MD
Clinical Instructor, Radiology – Diagnostic Radiology

Michael P. Marks, MD
Professor, Radiology – Diagnostic Radiology and, by courtesy, Neurosurgery
Chief, Interventional Neuroradiology

Tarik Massoud, MD, PhD
Professor, Radiology – Diagnostic Radiology and Med Center Line

Zina Payman, MD
Clinical Assistant Professor, Radiology – Diagnostic Radiology

Eric Tranvinh, MD
Clinical Instructor, Radiology – Diagnostic Radiology

Max Wintermark, MD
Professor, Radiology – Diagnostic Radiology, Med Center Line; Chief, Neuroradiology

Kristen Yeom, MD
Assistant Professor, Radiology – Pediatric Neuroradiology and Med Center Line

Greg Zaharchuk, MD, PhD
Associate Professor, Radiology – Diagnostic Radiology

Radiology & Nuclear Medicine

Andrei Iagaru, MD
Associate Professor, Radiology (Nuclear Medicine)

Erik Mittra, MD, PhD
Clinical Assistant Professor, Radiology (Nuclear Medicine)

Andrew Quon, MD
Associate Professor, Radiology (Nuclear Medicine)

New Physicians

The Stanford Neuroscience Health Center is a comprehensive care destination for all neuroscience patients, delivering integrated and coordinated outpatient services in neurology, neurosurgery, and interventional neuroradiology. Our Stanford Medicine physicians see over 50,000 patients annually, and are available to work with you and your patients to offer specialized care. To refer patients, call: **650.723.6469**.

Atman Desai, MD
Clinical Assistant Professor, Division of Spine and Peripheral Nerve Surgery

Dr. Desai provides comprehensive spine care and neurosurgery to treat adults with spinal trauma, disease and/or deformity. He focuses on the surgical treatment of spinal tumors, spinal degenerative disease and spinal deformity, and has particular interest in computer-assisted and minimally invasive surgical approaches.

Christopher B. Lock, MBBS, PhD
Clinical Associate Professor, Neurology and Neurological Sciences

Dr. Lock specializes in the care of patients with multiple sclerosis (MS), seeing patients in the MS and Neuro-Immunology Clinic. His clinical expertise is in the management of brain and nervous system conditions in which the immune system interacts with the central nervous system to cause disease.

Jeremy J. Heit, MD, PhD
Clinical Instructor, Radiology

Dr. Heit is an interventional neuro-radiologist, specializes in the treatment of patients with stroke, brain aneurysms, brain arteriovenous malformations, brain and spinal dural arteriovenous fistulae, carotid artery stenosis, vertebral body compression fractures and congenital vascular malformations. He treats these conditions using minimally-invasive, image-guided procedures and state-of-the-art technology.

Stanford
HEALTH CARE

300 Pasteur Drive
Stanford, CA 94305-5547

To lead in caring for people with neurological disorders and translating innovations into cures.