

### FROM THE DIRECTOR:

## New Hope on the Horizon

I am tremendously pleased with this issue of our newsletter because we have so many transformational developments to share with you, our patient families, donors and supporters.

As you'll read in the following pages, we are never satisfied with the status quo at the Diabetes Center. The new Madison Clinic for Pediatric Diabetes at UCSF will revolutionize diabetes care for our pediatric and young adult patients and serve as a model for clinics throughout the country.

We've also brought diabetes to the forefront at UCSF through the recently created UCSF Diabetes Family Fund for Innovative Patient Care, Education and Scientific Discovery. More than 2,200 faculty members were eligible to apply for competitive, diabetes-related awards that foster creative and cross-discipline collaborations across the entire UCSF community. The response was phenomenal, and the breadth and caliber of the grant proposals was truly impressive. You'll be happy to know that hundreds of researchers and clinicians at UCSF are working every day to make a difference in the lives of those impacted by diabetes.

I'd like to take this opportunity to congratulate Martha Nolte Kennedy, MD, and the Diabetes Teaching Center for a well-deserved honor.

*Continued on next page*



## Leading the Way in Pediatric Diabetes Care

In recognition of the vision, passion and extraordinary skills of Saleh Adi, MD (*above, right*), to help children and young adults with diabetes, an anonymous donor has made a transformational gift. It will enable Adi and UCSF to "build the best pediatric diabetes clinic on the West Coast."

Through the generosity of this donor, combined with the continued support from many of you, we plan to revolutionize the delivery of diabetes care to our children and young adults by creating the Madison Clinic for Pediatric Diabetes at UCSF.

Under the direction of Adi in collaboration with Stephen Gitelman, MD, director of the UCSF Pediatric Diabetes program and the Mary B. Olney, MD/KAK Chair in Pediatric Diabetes and Clinical Research, the Madison Clinic for Pediatric Diabetes at UCSF will significantly expand our Pediatric Diabetes program – allowing us to better address the surge in the pediatric diabetes patient population and meet the unique needs of our young patients and their families.

### The Madison Clinic for Pediatric Diabetes at UCSF will:

- Provide individualized and comprehensive care for children and young adults with diabetes;
- Develop a complete program to facilitate the challenging transition from childhood to adulthood;
- Expand our administrative staff to provide personal attention to each family, assist patients in navigating the system to gain direct access to clinicians, and obtain all the supplies and resources our families may need;
- Develop a broad education curriculum for patients, families and all caregivers, including school teachers and coaches;
- Create a dedicated space for the Madison Clinic, with expanded clinic sessions Monday through Friday;
- Establish satellite clinics in outlying communities throughout Northern California, and an advanced telemedicine system to reach patients in the neighboring states and eventually in remote third world countries.

**The initial gift of \$10 million to the Madison Clinic Fund came with a challenge: we must raise an additional \$5 million in a 2-for-1 matching campaign.**

### HOW YOU CAN HELP:

**Make a donation by February 2014** and qualify for the 2-for-1 match, tripling your gift! (*Gifts received after February 2014 will qualify for a 1-for-1 match.*)

- Use the enclosed reply envelope, or
- Make your gift online at [www.diabetes.ucsf.edu/donations](http://www.diabetes.ucsf.edu/donations); select > **Make a Gift**; choose a designation > **Madison Clinic for Pediatric Diabetes**.



University of California  
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*advancing health worldwide™*



Matthias Hebrok

## From the Director

*Continued from front page*

Nolte Kennedy and her clinical team were finalists in the *San Francisco Business Times'* Health Heroes Awards. This award was presented to the team for creating their online diabetes educational resource, Diabetes Education Online, [www.deo.ucsf.edu](http://www.deo.ucsf.edu). I recommend that you visit this website, if you have not already.

I feel great pride for all that we are doing here at the Diabetes Center. However, to keep our research and clinical programs on track, we seek your help, please. We hope you'll read this newsletter and our website, [www.diabetes.ucsf.edu](http://www.diabetes.ucsf.edu), to learn why the Diabetes Center is such a great investment in preventing, treating and curing diabetes.

On behalf of the faculty and staff of the Diabetes Center, I thank you for your ongoing support.

Sincerely,

Matthias Hebrok, PhD

*Director, UCSF Diabetes Center  
Hurlbut-Johnson Distinguished Professor  
in Diabetes Research*

## New Center for Type 2 Diabetes Translation

We are pleased to report that the National Institutes of Health made an award to establish a "Center for Diabetes Translation" to the Northern California Division of Research of Kaiser Permanente. UCSF is Kaiser's key California collaborator in this center, one of seven nationwide, which will focus on diabetes prevention, diabetes health technology and diabetes disparities.

Center director Julie Schmittiel, PhD, will work closely with UCSF principal investigator, Dean Schillinger, MD, chief of the UCSF Division of General Internal Medicine, San Francisco General Hospital and director of the Health Communication Program of the UCSF Center for Vulnerable Populations. A special feature of Kaiser's proposal to the NIH was the integration of the new center's efforts with the statewide California Diabetes Prevention and Control Program, a project run jointly by UCSF and the California Department of Public Health, and directed by Schillinger.

Congratulations to Dean Schillinger and his colleagues for this prestigious research award and recognition!



Dean Schillinger

## New Fellowship Created by Long Foundation

Thanks to the ongoing generosity of a very special family, the Joseph and Vera Long Foundation recently endowed the Vera M. Long Outstanding Diabetes Scientist Post-Doctoral Fellowship.

The foundation stipulated that the fellowship recipient have an exceptional academic record, potential for scientific advancement and demonstrated interest in promoting the advancement of women in science. Previously, the Vera M. Long Foundation created the Vera M. Long Endowed Chair in Diabetes Research, now held by Christian Vaisse, MD, PhD, of the Diabetes Center. The foundation also funded the Vera M. Long Foundation Gene Therapy Suite at the UCSF Islet and Cellular Transplantation Facility.

## Expert in Fat Cell Development Recruited

A talented young researcher has joined our team to help tackle the growing epidemics of obesity, insulin resistance and the metabolic syndrome.

Shingo Kajimura, PhD, is an accomplished researcher in the regulation of fat cell development and the molecular networks involved in the development of obesity-linked diseases such as type 2 diabetes.

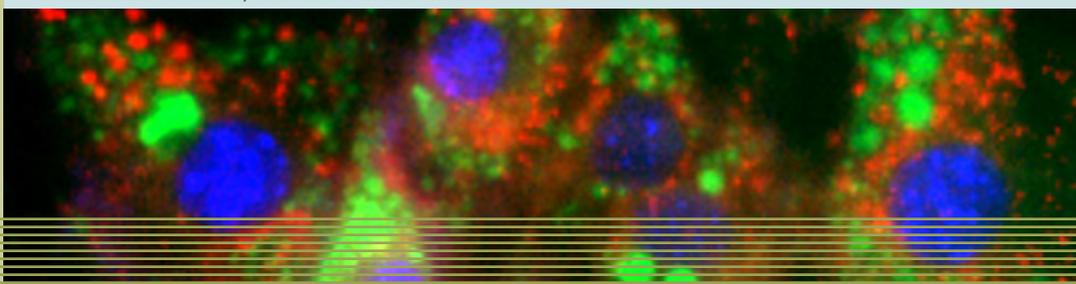
Kajimura received his BS, MS and PhD at the University of Tokyo, and he participated in training programs at the University of Hawaii and the University of Michigan. After completing his PhD in 2006, he conducted his post-doctoral training at the Dana-Farber Cancer Institute and the Harvard Medical School.

Because adipose tissue, fat, serves as a central regulator of the body's energy metabolism balance, obesity tends to be a major risk factor for metabolic disorders such as type 2 diabetes and cardiovascular disease. Kajimura's lab is focused on uncovering the molecular circuits that control fat cell development and function, specifically focusing on brown adipose tissue (BAT), which specializes in dispersing chemical energy in the form of heat. Since recent studies have shown the existence of significant deposits of active BAT in adult humans, Kajimura hopes to alter the amount and activity of BAT to provide novel therapeutic interventions to counteract obesity and its related disorders.

Below: Engineered brown adipose tissue created from mouse skin cells is used in Kajimura's metabolism research; red shows mitochondria.



Shingo Kajimura



# New Family Fund Fuels Discovery

In 2008, 57 million U.S. adults were prediabetic. Just two years later, that number had ballooned to 79 million. Many of these prediabetic adults will soon join the 25.8 million people nationwide who already have diabetes.

"It is a tsunami that's going to hit us," says Matthias Hebrok, PhD, the Hurlbut-Johnson Distinguished Professor in Diabetes Research and director of the UCSF Diabetes Center. Referring to the variation typically associated with being overweight, he adds that while more than 90 percent of the prediabetic in the U.S. are type 2, the incidence of type 1 diabetes, caused by an autoimmune response against insulin-producing beta cells, is also on the rise.

In the face of this dire trend, a member of the Diabetes Center Leadership Council recently funded UCSF to fight against the greatest challenges of treating diabetes – from how to communicate better with literacy-challenged patients to discovering rare mutations of genes that contribute to type 1 diabetes.

## Awards Support Unique Projects

**The UCSF Diabetes Family Fund for Innovative Patient Care, Education and Scientific Discovery** seeks to stimulate and support creative, collaborative and imaginative innovations and projects whose outcomes and discoveries are transformative. The fund awards one to two years of support for projects that fall in one of three categories:

- Excellence in diabetes clinical care and diabetes management
- Reduction of health disparities in the prevention and treatment of diabetes in vulnerable, underserved and literacy-challenged patients
- Innovative and transformative diabetes research

These unique awards encourage not just research but other efforts across the scope of patient care. According to Hebrok, the donor wants the funding to be given as broadly as possible, hitting every facet of a patient's life – from improving access and prevention to scientific discoveries that could have larger implications down the line.

"Often donors have specific ideas about what they want to finance, like

bricks and mortar, specific people or areas of research, all of which are greatly appreciated," Hebrok says. "This gift is going out into the UCSF community to get the best ideas, to build relationships among people who have not previously worked together, and to promote interactions between disciplines."

In its first year of existence, 12 projects received support. Here are just a few examples of the collaborative efforts that received funding, launching a new era of research and patient care at the UCSF Diabetes Center:

**GENE MUTATIONS** – Mark Anderson, MD, PhD, the Robert B. Friend and Michelle M. Friend Endowed Chair in Diabetes Research, runs a basic science lab in the UCSF Diabetes Center, and will explore the genetic underpinnings of diabetes. "The money will be used for a new and exciting technology that looks for rare mutations in genes that could contribute to diabetes," says Anderson. By looking at families where the inheritance of diabetes is very strong, Anderson and his fellow researchers will use massive parallel sequencing – a revolutionary technique that can sequence billions of DNA molecules in one run to identify gene mutations. "We then bring it into the lab and start working on how this mutation is leading to diabetes," says Anderson. "This work has the potential to open new avenues for both our understanding and treatment of diabetes."



Mark Anderson

**VULNERABLE POPULATIONS** – The team of Dean Schillinger, MD, director of the UCSF Center for Vulnerable Populations, chief of the Division of Internal Medicine at San Francisco General Hospital and chief of the California Diabetes Program, received funding for projects centered on treatment and prevention for vulnerable populations. "Younger people are getting type 2 diabetes in the prime of their lives and it's clearly related to the obesity epidemic, combined with poverty and illiteracy," says Schillinger. Because type

2 diabetes often has an incubation period of years to decades between exposure to risks and the development of illness, most young people are not aware of how their communities and local resources shape their behavior, and how that behavior can lead to diabetes at younger ages. "Most youth don't know about diabetes, let alone get activated around it," Schillinger adds. "The way society is structured is contributing to this epidemic. In low-income neighborhoods, it's much easier to make the wrong choice. It's safer to drive rather than walk, and it's easier to buy cheap, calorie-dense food. Getting youth to champion change through social media is a novel and promising approach."

**TRANSITION CARE** – In the category of clinical excellence, a grant was awarded to a team of well-known UCSF physicians – Megumi Okumura, Saleh Adi, Stephen Gitelman, Martha Nolte Kennedy and Umesh Masharani – to develop, implement and evaluate a holistic multidisciplinary transition program from pediatric to adult care for adolescents



Megumi Okumura

and young adults with diabetes through joint partnership between the UCSF pediatric and adult programs.

## Building on a History of Innovation

For more than half a century, researchers at UCSF have been at the center of major developments in diabetes treatment and care. From the first to clone the human insulin gene that produced insulin, which makes possible the unlimited supply of human insulin available today, to the first to demonstrate that elevated blood sugar causes complications, which helped pioneer the intensive glucose control strategies now utilized worldwide, UCSF is recognized across the globe. Today, with the aid of this funding, the UCSF Diabetes Center will continue its singular mission to bring lasting improvements in quality of life to individuals with type 1 and type 2 diabetes.

ADDRESS SERVICE REQUESTED

## Take the Challenge: Make a donation to the Madison Clinic for Pediatric Diabetes at UCSF

*Gifts qualify for a 2-for-1 match!*

# NEWS from the Diabetes Center at UCSF

For more information on any of these stories, contact  
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## Improving Insulin Management for Hospitalized Patients

**H**ave you or a loved one ever been frustrated by how your diabetes has been managed in a hospital setting? Thanks to a team of our clinicians led by Robert Rushakoff, MD, and Mary Sullivan, RN, DNP, ANP-BC, CDE, UCSF hospitals have tackled this problem head-on by putting new insulin management systems in place. We have also focused on improving diabetes management for patients transitioning into and out of the hospital.

In a recent medical journal article, Rushakoff and his colleagues reported how a UCSF online educational module completed by pediatric nurses helped to reduce the hospital's insulin error rate to less than 2 percent.

In another journal article, Rushakoff and his team identified diabetes-specific post-hospital discharge issues by conducting a telephone survey

administered one week after hospital release. Through this survey, they found that nearly 100 percent of patients had been successfully trained in use of insulin, home glucose monitoring and understanding their discharge orders. However, the team also learned that even though 79 percent of patients felt

their blood sugars were in good control, only 53 percent were considered in good control based on predefined criteria. Approximately 21 percent of the patients had trouble obtaining diabetes

medications and supplies, and many had challenges managing their blood sugars when steroids and other drugs were prescribed to reduce inflammation or as part of post-transplantation treatment.

By making simple changes to hospital pre-discharge instructions, our team hopes that these post-discharge issues will be minimized for patients in the future.



Robert Rushakoff

Mary Sullivan



## Learn more...

Download our new smartphone app, Diabetes IQ, from our Diabetes Teaching Center's educational website:  
[www.deo.ucsf.edu](http://www.deo.ucsf.edu)

Learn more about our clinical trials in diabetes:  
[www.diabetes.ucsf.edu/clinicaltrials](http://www.diabetes.ucsf.edu/clinicaltrials)

Take advantage of our free educational program for Bay Area employers:  
[www.diabetes.ucsf.edu/community](http://www.diabetes.ucsf.edu/community)