

## Making An Impact

### DONOR SPOTLIGHT

#### *Keller and Elam Families Dedicate New Discovery Wall*

In October, during an evening reception for more than 125 guests, the Institute dedicated the new Elam Discovery Wall and Type 1 Diabetes Center. The discovery wall, a technologically advanced and visually stunning scientific research and education tool, was dedicated in memory of William N. Elam, Jr., M.D., a longtime family physician and stepfather of Institute friend, Kevin Keller.

During the dedication, guests – including some of the top type 1 diabetes researchers in San Diego and the nation, as well as friends of the Institute – were treated to a powerful demonstration of the new technology, while speakers discussed the goals of the Institute's new Type 1 Diabetes Center. The Elam Discovery Wall technology was developed by the

California Institute for Telecommunications and Information Technology (Calit2) at UC San Diego, which designed and now hosts the largest visualization wall in the world.

The technology gives La Jolla Institute researchers the ability to see cells with unprecedented clarity via a large, interconnected wall of HD monitors. In addition to its potential as a highly innovative research tool, the Wall also provides a unique resource for educating the public about the value of basic research in fighting disease. Together, contributing significantly to Finding Cures Faster.

Patricia Ann Elam, wife of the late William Elam, Jr., M.D., said the Wall bearing her husband's name reflects "both his love for medicine and for invention." We thank Kevin Keller's family and especially his mother, Patricia Ann Elam, for their continued generosity.



Falko Kuester, Ph.D. of UCSD's Calit2

**Each year more than 15,000 children are diagnosed with juvenile diabetes in the U.S.  
40 children per day**

### OFFICIAL LAUNCH: THE INSTITUTE'S TYPE 1 DIABETES CENTER

Led by Matthias von Herrath, M.D., one of the world's top type 1 diabetes researchers and recipient of the American Diabetes Association's prestigious 2008 Outstanding Scientific Achievement Award, the Center will accelerate research toward new therapies to better treat, prevent or cure type 1 diabetes. "Our mission is to be a premier center of immunological excellence in type 1 diabetes research," said Dr. von Herrath. The Center will focus on new, immune-based approaches and is the first such immunologically focused research center for type 1 diabetes in Southern California. For Dr. von Herrath, collaboration with local organizations is key to the Center's efforts to combat type 1 diabetes.

"The San Diego life sciences community offers a very dynamic environment populated by world leaders in a variety of specialties," said Dr. von Herrath. "We anticipate working collaboratively with scientific colleagues at several prominent San Diego research institutes, clinical care environments, and biotechnology companies to aid our research efforts against type 1 diabetes."



Mathias von Herrath, M.D.

The Center has close ties with the Pediatric Diabetes Research Center of UC San Diego, the Sanford Children's Health Research Center at the Burnham Institute, and Rady Children's Hospital, along with several private San Diego biotechnology companies. In addition, the La Jolla Institute works closely with the Brehm Coalition—a national scientific consortium devoted to accelerating research toward a type 1 diabetes cure.

Type 1 Diabetes Center Director, Dr. von Herrath, and his lab are edging closer to a goal that has eluded the scientific community for nearly a century. For more information and how to help, visit [www.liai.org/t1d](http://www.liai.org/t1d).



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Type 1 (juvenile) Diabetes Research

## FACULTY CORNER

*An Interview with New Faculty Member, Joel Linden, Ph.D.*

**La Jolla Institute:** You are an expert on adenosine receptors. Can you explain what adenosine receptors are and their importance to the immune system?

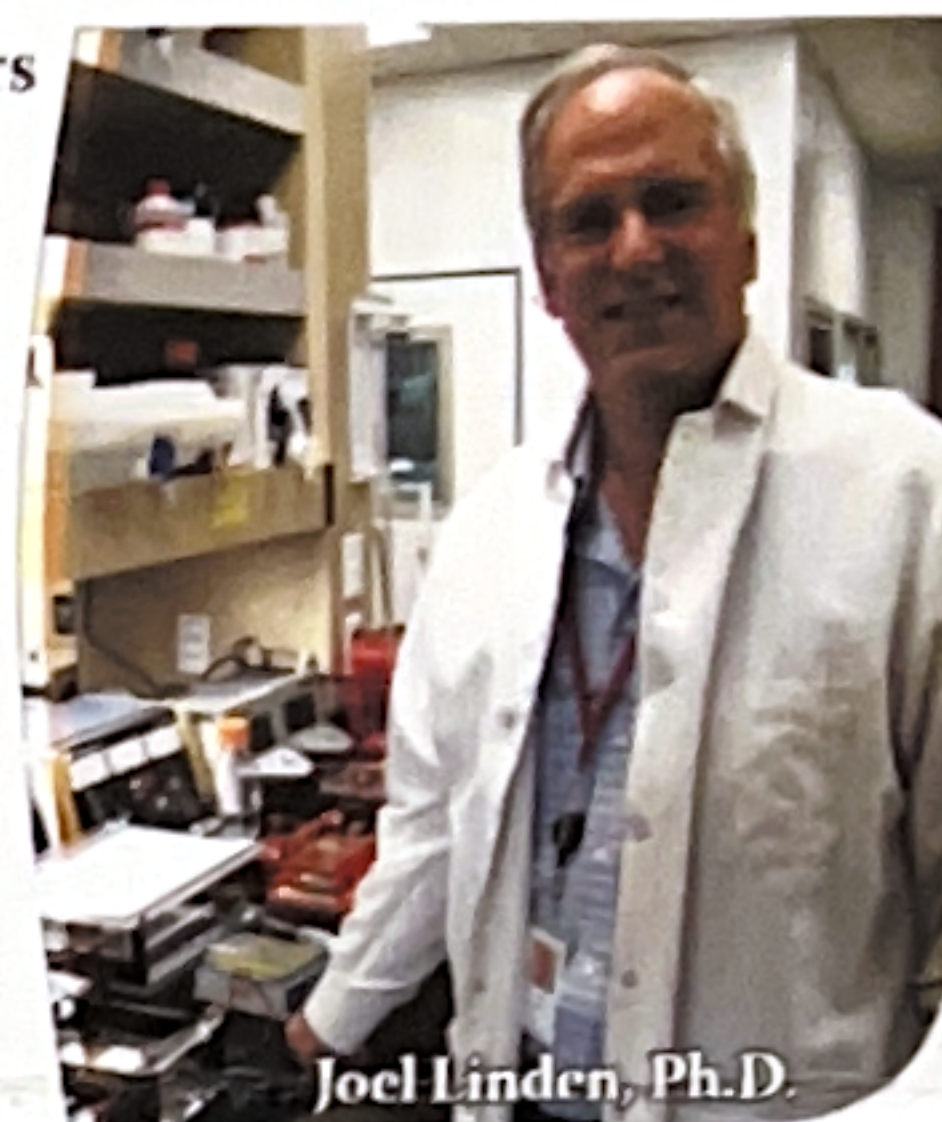
**JL:** Produced by cells, adenosine is a bi-product of the breakdown of adenosine tri-phosphate (ATP). ATP can be thought of as the gasoline of the cells. Adenosine is produced when ATP is being utilized in high quantities by stressed cells. We think adenosine evolved to counteract stress and found the adenosine receptor to be a powerful regulator of the immune system, thus suggesting therapeutic application.

**La Jolla Institute:** Why is that discovery important to disease?

**JL:** Activating these receptors inhibits damaging inflammation, which has long been recognized to play a very important role in many immune diseases. More recently, heart failure, atherosclerosis, and type 2 diabetes have also been associated with chronic low-grade inflammation—triggering even more interest in finding ways to combat inflammation.

**La Jolla Institute:** What does this discovery mean for the future of human health?

**JL:** We think that activating adenosine receptors has great potential to inhibit a wide-range of inflammatory diseases. For example, a person suffering from sickle cell anemia may be walking around with chronic low-grade pain, but doing okay. As they encounter stress, whether a mild infection, emotional or physical stress, all of a sudden they are in severe crisis. Our research shows that adenosine can be used to block these painful and destructive flare-ups. I welcome the opportunity to work with my colleagues and study the interaction between immunology and inflammation.



Joel Linden, Ph.D.

## EDUCATION & OUTREACH

*Opening Doors to the World of Research*

In the summer of 2009, the La Jolla Institute for Allergy & Immunology welcomed four high school students, all from different high schools in San Diego, as competitively chosen participants in the inaugural summer high school internship program.

The program, funded entirely through charitable gifts, was facilitated in collaboration with the San Diego Workforce Partnership's Life Sciences Summer Institute with BIOCOM and the Southern California Biotechnology Center (SCBC). Gifts to the La Jolla Institute have an immediate effect on the types of programs we can offer our community.

The eight-week program provided students with one week of laboratory and work readiness training, followed by a seven-week full-time paid internship. Interns were immersed in the research environment and worked on experimental techniques with their

mentors, including: tissue culture, hematoxylin and eosin tissue staining (H&E), immunohistochemistry (IHC), fluorescence microscopy, flow cytometry, fluorescence activated cell sorting (FACS) analysis, and more. The experience was mutually rewarding, invigorating mentors' research with the energy and curiosity of the interns.

*"I had the opportunity to work alongside outstanding scientists in a world renowned research institute, and to do research that only people with Ph.D.s and M.D.s get to do."*  
Megan Bradley, Intern

*"It was great to see the high level of enthusiasm and interest in the sciences from people as young as high school students. I was particularly impressed by their strong desire to learn and the energy they brought with them into the program."*

Aaron Tyznik, Ph.D., Mentor

*"Megan was an asset to our Lab. She not only helped our scientists, but she brought humor and a dependable set of extra hands. We gained as much from learning to be good mentors, as we hope she did from her lab experience...knowing that we contributed in some way to a young scientists future."*  
Keely Arbenz-Smith, Mentor

*"This program has a very real and tangible effect on sustaining the pipeline of future scientists. It is very important to the Institute, both as a way to connect our research to real people, but also in raising the public's awareness of the important work we are doing here."*

Mitchell Kronenberg, Ph.D., President and Scientific Director

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