

THE SCIENCE OF STEM CELLS

Edwin S. Monuki, M.D., Ph.D.

Stem cells are unspecialized cells that can generate healthy new cells and tissues. These “master” cells have three general properties: they are young or youthful, they can renew and divide for very long periods of time, and they can differentiate to each of the specialized cells within our bodies. They are unlike any other cell in our body.

In development, stem cells are the cells responsible for transforming into the specialized cells of the body, including brain, blood, pancreas and heart cells. While stem cells work hard to give rise to a variety of specialized cells, they also retain their potential to renew themselves indefinitely. These important characteristics are why stem cell research holds such great promise for improved understanding of disease and the development of new, more effective treatments.

Stem Cell Research

Stem cells are leading to new treatments that can repair or replace damaged cells, opening up countless new possibilities for healing the body from devastating illnesses and injuries. Diseases that were once incurable could be cured; injuries that now leave permanent disabilities could heal with no lasting damage. This leads to great expectation that unlocking the potential of stem cells will lead to the greatest leap forward in the history of medicine.

Stem cell research has often been called “the new frontier of medicine” because of its potential to advance our understanding of the biological processes that keep our bodies healthy and whole. For example, adult stem cells can help us to understand how our tissues do (or do not) repair themselves after injury. Research using embryonic stem cells can shed light on the molecular mechanisms governing tissue development, and aid the design of safer, more effective drugs. Stem cells can be used – in different ways – to repair or replace tissues damaged by disease. In the years ahead, knowledge gained through stem cell research is expected to improve

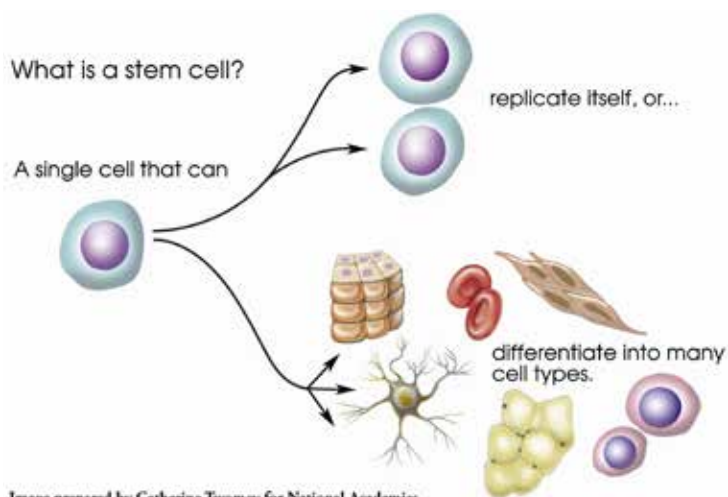


Image prepared by Catherine Twomey for National Academies, *Understanding Stem Cells: An Overview of the Science and Issues*

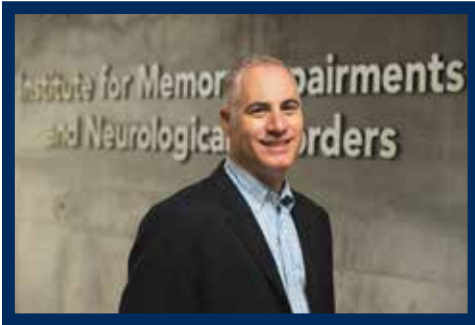
treatment options for a number of currently incurable diseases and injuries, including Alzheimer’s Disease, Huntington’s Disease, Parkinson’s Disease, multiple sclerosis, ALS, spinal cord injury, stroke, heart disease, cancer, diabetes, severe burns, lupus, sickle cell disease, HIV/AIDS, osteoarthritis, rheumatoid arthritis and vision and hearing loss. In addition, stem cells might also provide unique experimental tools that will allow neuroscientists to better understand puzzling brain disorders like Alzheimer’s, autism, and cerebral palsy.

Types of Stem Cells

Stem cells are often defined by their potency - i.e. by how many different types of cells they can become. As stem cells specialize, they can create fewer and fewer different types of cells. Pluripotent stem cells can become any of the 200 some cells in the human body. Multipotent cells can become many different cells but only of certain tissues. For example, stem cells of the bone marrow can make every type of blood cell. Unipotent cells can only become one type of new cell.

There are several categories of stem cells. In general, scientists categorize stem cells by their tissue of origin. Adult stem cells, which are multipotent or unipotent, are found within

Continued on page 4



Research today brings Hope for Tomorrow

If you have had the opportunity to attend a recent UCI MIND educational event or enjoyed a “Behind the Scenes” tour of the UCI MIND offices and laboratories, then there is a good chance that you’ve heard one or more of our faculty and staff make reference to the phrase, ***Research Today. Hope Tomorrow.***

For the many researchers, faculty and staff of UCI MIND, that phrase represents a great charge that we have been given by the University, the federal and state government, and by the community of Orange County. We have great hope that one day the devastation of dementia caused by Alzheimer’s disease will come to end through preventative measures and effective treatments.

UCI MIND researchers push forward each day on a wide and varying range of research projects to further understand the causes of Alzheimer’s disease and develop potential treatments. Achieving our vision of a world in which Alzheimer’s disease is but a memory brings with it responsibilities that we strive to fulfill in all we do at UCI MIND. We are committed to adhering to the highest scientific standards. In science, there are no shortcuts, so we move forward diligently, step by step, generating findings that the medical and lay community can rely on, and laying the groundwork for innovations that give us hope for tomorrow.

Finding a cure for Alzheimer’s disease demands new cutting edge efforts, and UCI MIND recently received a two year grant from the National Institute on Aging and additional generous support from HCP, Inc., a healthcare REIT, to develop and study patient-derived stem cell lines as part of our iPS Cell Bank. Few discoveries have as much potential to transform modern medical research as iPS cells and we’re proud that UCI MIND is at the forefront of using this technology in the battle against Alzheimer’s disease. We are also humbled by and grateful for the support and confidence that so many members of the community have entrusted in us, as you’ll read in the pages of this newsletter. So we press forward with research today, knowing that the work we do and the discoveries we make will fuel the hope of tomorrow for a world without Alzheimer’s disease.

ICTS AWARDS GRANT TO UCI MIND RESEARCHER AND COMMUNITY PARTNER

Viorela Pop, PhD and Tonia Vojtkofsky, PsyD were recently awarded a competitive grant from the UC Irvine Institute for Clinical & Translational Sciences Community Engagement Unit (ICTS CEU)*. The award for this campus-community program provides funding for the collaborative proposal entitled “Cognitive Exercise May Preserve Memory and Functional Ability in Persons with Mild Cognitive Impairment”. This new pilot study will provide an opportunity for individuals with an MCI diagnosis to participate in a collaborative research project between the UCI MIND ADRC and community partner, Cognitive Care Solutions, during the period of performance starting April 2014 through March 2015. Dr. Pop has a background in neuroscience research and is currently the Senior Clinical Research Coordinator working with the center’s Medical Director, Aimee Pierce, MD who is the faculty sponsor for this study. Cognitive Care Solutions specializes in cognitive therapy for individuals with memory impairment, and both Dr. Vojtkofsky (Founder and President) and Jennifer Mitolo, PsyD (CEO) will engage in this study.



Viorela Pop, Ph.D.



Tonia Vojtkofsky, Psy.D.

*This material is based on work supported by NIH under Prime Award no. UL1 TR000153 and The Regents of the University of California.



IN THE NEWS

Exciting discoveries, achievements, and updates from the Institute for Memory Impairments and Neurological Disorders

UCI MIND RECEIVES PROGRAM OF THE YEAR AT 19TH ANNUAL SAGE AWARDS

UCI MIND was the proud recipient of Program of the Year at the 19th Annual SAGE Awards, held on November 20th at the Turnip Rose in Costa Mesa. Initiated in 1995, the SAGE Awards, hosted by the 55+ Housing Council, honor individuals, projects and programs that have made an outstanding contribution to enhancing the quality of life for Southern California [Santa Barbara to San Diego] residents aged 55+.

UCI MIND was recognized for developing an internationally acclaimed site for excellence in Alzheimer's disease and related dementias through its research accomplishments, including clinical research and trials dedicated to investigating the causes of Alzheimer's disease, improving quality of life and promoting successful aging. One of 27 Alzheimer's disease centers supported by the National Institute for Aging, UCI MIND is also one of just 10 California Alzheimer's Disease Centers funded by the California Department of Public Health.



Linda Scheck and
Frank LaPerla, Ph.D.

LESLIE THOMPSON NAMED FELLOW OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

UC Irvine neurobiologist Leslie Thompson has been named a fellow of the American Association for the Advancement of Science. Election as an AAAS fellow is an honor bestowed upon association members by their peers. Thompson, a professor of psychiatry & human behavior, biological chemistry and neurobiology & behavior, was selected for her distinguished contributions to the Huntington's disease field, particularly relating to mechanisms underlying the cause of the disease, to medical school teaching and to HD-related professional societies.

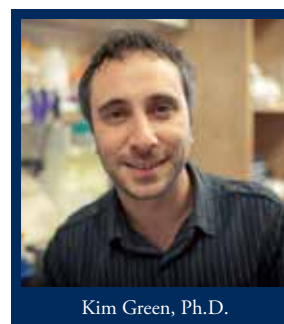
Thompson is a research member of Institute for Memory Impairments & Neurological Disorders (UCI MIND), the Sue & Bill Gross Stem Cell Research Center and the Chao Family Comprehensive Cancer Center.



Leslie Thompson, Ph.D.

KIM GREEN AWARDED 5 YEAR RESEARCH GRANT TO STUDY ALZHEIMER'S BY THE NIH

Dr. Kim Green has recently been awarded a 5-year R01 grant from the National Institutes of Health to study the potential benefits of microglial repopulation to both age-related cognitive decline and Alzheimer's disease. Microglia are the primary immune cell of the brain and function to protect our brains from infection. When an infection is detected in the brain our microglia respond to them by producing toxic chemicals to kill the invading pathogen, and then eat up the remains. Once the infection is cleared the microglia return to a resting state. However, in both normal aging and Alzheimer's disease our microglia become abnormal and begin to produce these same toxic chemicals even though there is no infection present. These chemicals are harmful to our neurons and contribute to the pathology seen in the Alzheimer's disease brain, as well as to age-related cognitive decline.



Kim Green, Ph.D.

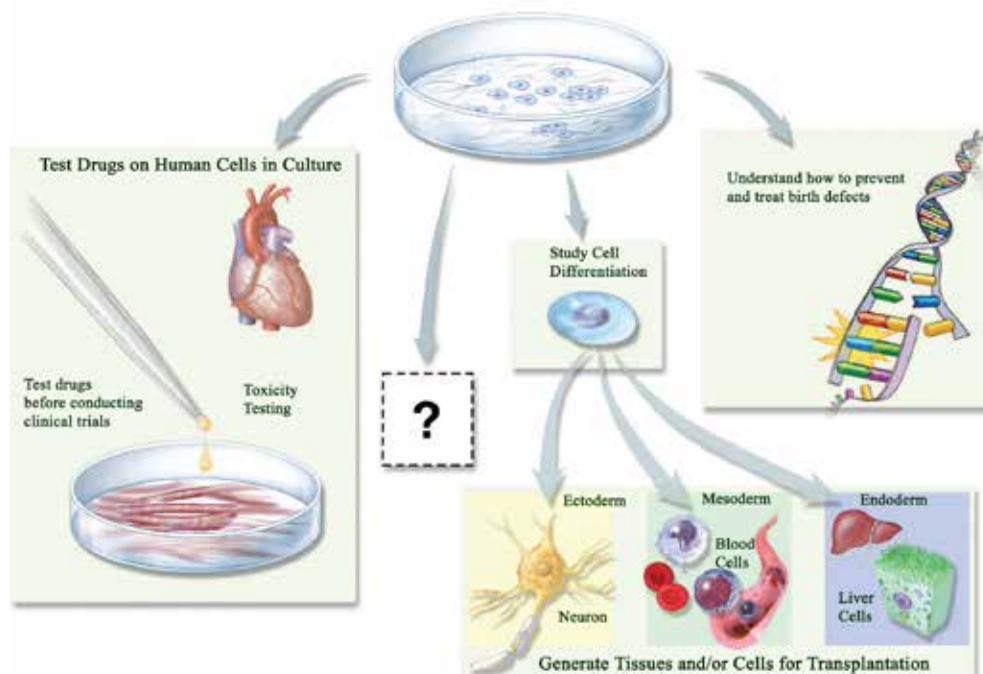
Dr. Green's group has discovered a way to eliminate all the microglia from the brain, using drugs normally used for the treatment of cancer, thus allowing them to remove all these harmful microglia in either the aged- or Alzheimer's diseased- brain. His group has further discovered the presence of a new microglial-stem cell in the brain, which they can then stimulate to become new microglia and repopulate the entire brain. This grant will study the possibility of removing all the "old" and "bad" microglia from the brain and then allowing for repopulation with "new" microglia derived from these stem cells, and whether this would be beneficial for either aging or preventing/treating Alzheimer's disease.

specific body tissues and typically generate only the cells of that tissue. For example, brain stem cells can only become the specialized cells of the brain. Umbilical cord blood stem cells are a kind of blood-forming adult stem cell. Embryonic stem cells, or ESCs, are pluripotent cells that can transform into virtually any type of cell found in the body. Unlike adult stem cells, ESCs can become any other cell in the body. They aren't limited to one specific cell or type of tissue. Not only does this flexibility allow researchers to treat a multitude of different diseases with one type of cell, it also allows them to treat tissues where adult stem cells are rare, such as the brain and spinal cord. ESCs also show nearly unlimited ability to self-renew under the right conditions, whereas adult stem cells often more limited in their self-renewal capabilities. Researchers can potentially generate a nearly unlimited supply of stem cells from even the smallest sample of ESCs. A third type of stem cell is called an induced pluripotent stem cell, or iPSC. iPSCs are created by taking a regular adult cell, such as a skin cell, and "reprogramming" it into a stem cell very similar to an ESC. With iPSCs, researchers can get the benefits of ESCs, without requiring any embryos. In addition, iPSC technology (as well as another, known as somatic cell nuclear transfer) provides the potential for making "patient-specific" cells that will not be rejected after transplantation. ADRC and other UC Irvine researchers are blazing new trails in the development of ESCs and iPSCs.

Different stem cell types harbor different characteristics, and scientists are only beginning to fully understand the stem cell characteristics needed to cure or treat specific diseases. Depending on the disease, ESCs, iPSCs, or adult stem cells may be best. Importantly, knowledge gained about ESCs and iPSCs will complement studies of adult stem cells, and vice versa. That's why most scientists believe that they can best work toward therapy advances by responsibly investigating all aspects of stem cell biology.

Ethics

Strict ethical safeguards govern stem cell work at UCI. UCI abides by all Federal and California statutes governing the donation of biological materials for research (including embryos) in order to protect the health, safety and privacy of donors. Chief among these are standards requiring that donors give their informed consent, and that these donations are free of coercion or financial incentive. For example, ESCs are derived from blastocysts that are produced during fertility treatment, then donated for research purposes after treatment concludes. In many cases, these surplus blastocysts would be stored frozen indefinitely or discarded as medical waste. Donors must give their informed consent prior to donation. UCI has established an Embryonic Stem Cell Research Oversight (ESCRO) Committee to monitor adherence to these safeguards, as well as to ensure that research involving stem cells serves important research aims and is conducted according to the highest ethical standards.



©2008 Terese Winslow

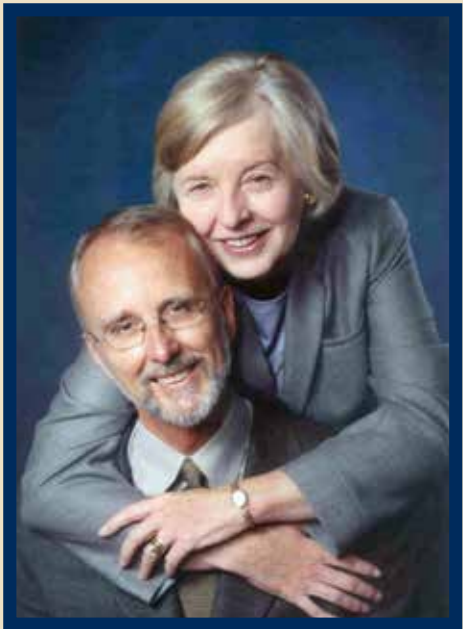
THE KEITH SWAYNE FAMILY CHALLENGE IN HONOR OF JUDY SWAYNE THE UCI MIND iPS CELL BANK INITIATIVE

In honor of his wife, Judy Swayne, who is battling Alzheimer’s disease, Keith Swayne and his family have issued a challenge to raise \$150,000 for the establishment and expansion of an iPS cell bank at UCI MIND.

The Swayne Family will generously match every dollar that is raised (up to \$150,000) for the unique cell bank.

Stem cell therapy receives considerable attention, particularly since UCI MIND investigators have pioneered this avenue of research specifically for Alzheimer’s disease. Stem cells are both controversial and exciting. The controversy is based on when the cells are harvested, with many people ethically objecting to the use of human embryos. UCI MIND investigators do not use embryonic stem cells in their research.

It is vital to point out that many stem cells can be directly obtained from adults, thereby bypassing any ethical concerns.



What are iPS Cells?

Few discoveries have as great a transformative potential for altering modern medical research as induced pluripotent stem (iPS) cells. These cells are special in that they can enhance our ability to study and understand the impact of disease in human cells in ways not previously possible. Pluripotent cells are capable of giving rise to every cell type in the human body and allowing unprecedented resource sharing among scientists. It is notable that iPS cells can be derived from skin samples. Anyone, even older adults, can easily donate the skin cells needed to develop iPS cells. Additionally, by harvesting iPS cells from the patient, science has minimized the incidence of rejection by the body that can be associated with traditional stem cell research and therapies.

Why the iPS Cell Bank is Necessary?

UCI MIND received a grant from the National Institute on Aging, NIA, to establish the first National Alzheimer’s Disease iPS Cell Bank. This will be a valuable resource for the entire Alzheimer’s research community and fits with our pioneering role in stem cell research. The award was granted to UCI MIND despite the current fiscal climate and the federal spending sequester because of the very high score it received and, also due to the value of such research at this time in history.

Because we can predict that federal funding for research will continue to decline as the number of Alzheimer’s patients rapidly increases, philanthropic support is vital for the advancement of Alzheimer’s research in UCI MIND.

A predictable funding source greatly enhances our faculty and graduate students’ groundbreaking and transformative research to make memories last a lifetime. Research requires a commitment of time as well as funding, and we ask that the community help us invest in discovery.

Your support will impact generations to come. Alzheimer’s should not be our reward for living a long life. You can move UCI MIND closer to our vision of bringing an end to the scourge of this disease.

Invest in discovery today to fund the fight against Alzheimer’s disease by making a donation to the Keith Swayne Family Challenge iPS Cell Bank Fund using the attached envelope.

Student led group, ReMIND hosts 5th Annual Emerging Scientists Symposium

On February 20, 2014, the students of ReMIND hosted their 5th Annual Emerging Scientists Symposium on Neurological Disorders. The all day conference brought together over 100 undergraduate and graduate students as well as faculty and staff to listen to 15 different graduate student presenters discuss their latest research findings. Keynote speaker, Valina Dawson of Johns Hopkins University, presented the final lecture, followed by the awarding of the top two presenters of the day, Monica Elmore and Joseph Ochaba, with special recognition.



MONICA ELMORE

Microglia are the primary immune cells in the brain, protecting the central nervous system (CNS) from injury and infection. We have discovered that microglia are physiologically dependent upon Colony Stimulating Factor 1 Receptor (CSF1R) for their survival and that we can

eliminate ~99% of all cells within just days using a CSF1R inhibitor, providing an opportunity to study microglia in a way that has not been possible before. Mice depleted of microglia for extended periods of time show no behavioral, motor, or cognitive impairments, which demonstrates that we can use this inhibitor as a therapeutic tool without negative side effects. In addition, mice lacking microglia show a dampened response to an immune challenge (lipopolysaccharide, LPS), confirming the role of these cells in immunity. Future studies will ascertain the role of microglia in the healthy and diseased brain, which is important for understanding and treating many diseases and disorders, including traumatic brain injury and Alzheimer's disease.



JOSEPH OCHABA

Huntington's disease (HD) is caused by a repeat in the HD gene leading to expanded polyglutamines in the huntingtin protein. Joseph's work has been examining the role that a specific protein modification 'enhancer,' PIAS1, plays in altering a protein modification of huntingtin called SUMOylation

and the accumulation of a pathological marker in HD: the accumulation of an insoluble huntingtin species. The work he presented showed that delivery of a virus which 'silences' PIAS1 in the brain region known to be affected in HD (the striatum), significantly improves the behavior and reduces pathological markers in an animal modeling the disease. The findings indicate that PIAS1 displays specificity and may act as a hub for regulating several pathways that are dysfunctional in HD. Overall, the pathways identified here in the context of HD and targeting specific regulators such as PIAS1 may represent novel and selective cytokine and immune-based therapeutic strategies that impact mutant huntingtin levels and provide insight into mechanisms underlying HD.



UNIVERSITY of CALIFORNIA • IRVINE

Alzheimer's Disease Research Center

Learn about your memory while advancing knowledge of memory and aging

Volunteers with **mild memory or thinking problems** are needed for a study on aging

Eligible participants will benefit from:

- Free comprehensive annual evaluations with feedback and recommendations from experts
- Opportunities to participate in additional studies (e.g., imaging, biomarkers, prevention, and clinical drug trials)
- The gratification of helping advance knowledge of aging and how to better treat Mild Cognitive Impairment, Alzheimer's disease, and other cognitive disorders

To participate, you must be 65 or older, have mild memory or thinking difficulties, and have an adult child, spouse or friend willing to answer questions about your everyday activities. If you would like to participate, or want further information, please contact Dr. Viorela Pop at 949-824-2382, Option 3, or vpop@uci.edu.

In Memoriam

Marguerite Cheri Portillo Hayes

JANUARY 22, 1970 – FEBRUARY 7, 2014

On February 7, 2014, Margie, Marguerite Cheri Portillo Hayes passed away after a 15 year battle with Huntington's disease. Margie was the daughter of Hector Portillo and Frances Saldana - the founder of UCI MIND's affiliated HD-CARE organization. Margie was the wife of Craig Hayes and mother of two children, Keelan and Angelique.

Margie attended Fountain Valley High School and the John Robert Powers School of Modeling. After high school Margie moved to Los Angeles and attended L.A. City College, where she studied cinematography. While she lived and studied in Los Angeles, she worked in Hollywood. Her work included being an extra in TV shows such as "Beverly Hills 90210", and in films such as "The Doors" and "Funny About Love".



In spite of the challenges that came with the onset of Huntington's Disease, it was common for her to confront her day with courage, boldness, and faith. During her 30's, Margie became dedicated to Huntington's disease advocacy. She attended many events in support of HD research: HD Team Hope Walks, Strike Out HD Bowl-a-Thons, and the National HDSA Conventions. Even though she was already symptomatic, she spoke before the California Institute for Regenerative Medicine's (CIRM) Review Board in 2007, among many other public forums in support of HD research.

Margie left a lasting and powerful impact and she inspired some of the most brilliant researchers in the world. She was relentlessly hopeful for a cure in time for the next generation. Her legacy will be remembered at UCI MIND's Huntington's Disease Exhibit, which is now available for anyone to visit.

HD-CARE is an institutional partner of UCI MIND with the primary goals of funding Huntington's disease research and supporting the HD clinic at UC Irvine.

UCI MIND Matters Club



Club member, Virginia Naeve

Are you interested in learning more about recent discoveries in Alzheimer's research at UCI MIND and elsewhere? Would you like to meet experts in the field of cognitive fitness? Are you interested in promoting your own cognitive health as you support research at UCI MIND?

The MIND Matters Club is the club for you. It is a group of individuals committed to supporting UCI MIND, expanding our understanding of Alzheimer's disease and other neurodegenerative disorders through research, education and service to the community.

Members of the MIND Matters Club receive unique benefits including quarterly private receptions featuring expert speakers on cognitive fitness and current research; a quarterly news brief highlighting recent discoveries; an annual appreciation event hosted by Director, Frank LaFerla, Ph.D., offering an opportunity to "meet and greet" UCI MIND researchers; and, if desired, a confidential annual memory screening and personalized brain health consultation, including a review of your risk factors.

The MIND Matters Club is a donor support group and recognizes donors who contribute *\$1,906 or more annually to UCI MIND. Contact Linda Scheck, Director of Development and Donor Stewardship at 949-824-3251 or lscheck@uci.edu to discuss this very special and personal donor club supporting Alzheimer's research at UCI MIND.

*The year 1906 was when Dr. Alzheimer discovered the disease that bears his name today.



GIVING AT UCI MIND

Helping UCI MIND Research Ways to Make Memories Last a Lifetime

RUTH AND ROGER MILLER MAKE \$1 MILLION ESTATE GIFT TO UCI MIND

Linda Scheck, (949) 824-3251, lscheck@uci.edu

Ruth and Roger Miller had a personal interest in the research, education and community outreach efforts taking place at the University of California, Irvine's Institute for Memory Impairments and Neurological Disorders (UCI MIND). They just didn't know it yet. But their good friend Tom Tierney did. When the Millers asked Tom, a UCI Foundation trustee and long-time university supporter, if he was aware of any organizations working to understand, prevent and treat neurological disorders like Alzheimer's and Parkinson's diseases, Tom recommended UCI and contacted Andy DiNuzzo, Major Gifts Officer in the UCI School of Biological Sciences.

Andy gathered specifics on UCI MIND's academic research on neurological disorders; educational programming like UCI MIND's student society ReMIND (Research and Education in Memory Impairments and Neurological Disorders), and community outreach efforts, including Ask the Doc forums. He also provided information on the university's Office of Planned Giving and any additional details that the Millers and their attorney might find helpful.

Once the proposal was prepared, Dr. Frank LaFerla, UCI MIND director and Linda Scheck, UCI MIND director of development and donor stewardship added their knowledge and expertise. Upon completion, the information was provided to Tom Tierney to share with the Millers. Up to this point, the UCI team did not know the identity of the interested couple. Tom served as liaison between the Millers and UCI.

Ruth and Roger were intrigued with what they read and what Tom told them about UCI MIND and the ground-breaking work taking place there every day. They were also impressed by the level of attention and urgency demonstrated by the UCI team. As a result, the Millers were ready to be introduced and a teleconference was arranged for Andy, Roland Ho - UCI's director of planned giving, Ruth and Roger, and their attorney.



That initial conference call marked the beginning of the Millers' relationship with UC Irvine. Their remarkable generosity and the ongoing commitment to collaboration from the Millers, their attorney, Christine C. Weiner, Esq., UCI Trustee, Tom Tierney, and the UCI team, resulted in their transformational gift that offers inspiration to the dedicated scientists and clinicians, research participant volunteers, their families and the entire community.

Dr. LaFerla had the opportunity to visit the Millers at their winter home in the California desert to thank them personally for their extraordinary support of UCI MIND. "The Millers have invested in discovery, giving hope to the 5.4 million people in the United States who suffer from Alzheimer's disease," said Dr. LaFerla. "The price is just too high for us to remain idle and ignore the growing epidemic of Alzheimer's disease, with a new case developing every 67 seconds. If we do nothing, this disease will bankrupt our country both financially and emotionally. Research today is the only hope for tomorrow."

It is the goal of UCI MIND to research ways to make memories last a lifetime. The generosity of Ruth and Roger Miller moves us closer to reaching that goal.

DONATIONS *from November 2013 - February 2014*

Honoraria

In Honor of Mrs. Betty Abrams
Dr. and Mrs. Marvin Abrams

In Honor of Anita and Howard Austin's 70th Birthdays

Mr. and Mrs. Victor Landsberg
Dr. and Mrs. Leslie S. Malo

In Honor of Malcolm Dick

Dr. Donald Hansen

In Honor of Jacqueline Dupont

Ms. Alison Hahn and
Ms. Catherine Beaumont

In Honor of Dan and Emily Flynn

Mr. and Mrs. Charles Quilter

In Honor of Paul and June Hunter

Mr. Paul E. Hunter

In Honor of Linda Scheck

Dr. Donald Hansen

In Honor of Helen S. Simpson

Mr. and Mrs. Robert Naeve

In Honor of Your Birthday!

Ms. Barbara Stroup

Memorials

In Memory of Virginia Barry

Mr. and Mrs. Mike Hablitzel

In Memory of Marie Belonge Bell

Ms. Kristina M. Belonge
Mr. and Mrs. Robert Kolb
Mr. and Mrs. Rick Meyers

In Memory of Judy Berman

Ms. Aylene Koverly and Phil Moser
Ms. Eileen Lafferty

In Memory of John Briones

Mr. and Mrs. Mark DeBono

In Memory of Doris Chou

Ms. Yohko Arnett
Mr. and Mrs. John Coker
Jacqueline Dupont and Marc Carlson
Mr. Eric Fujimoto
Mr. and Mrs. Steve Fujimoto

Memorials Continued

Mr. and Mrs. Michael Gray
Mr. and Mrs. Shu Huei Hsu
Mr. and Mrs. Albert K. Huang
Mr. and Mrs. Robert Joseph
Mr. Gilbert Karp
Mr. and Mrs. H. Kitagawa
Danny, Joan and Ken Ko
Gong Wen and Ya Ya Hsu Lin
Mr. and Mrs. Louis Luk
Ms. Judy Lynn Sagami
Ms. Gloria San Angelo
Bing and Sandia Tang
Ms. Linda Scheck

In Memory of Mr. and Mrs. William W. Drewry

Mr. Richard Rockwell

In Memory of Roger Eichmeier

Mr. and Mrs. Ralph Harris
Mr. and Mrs. Patrick Hulls
Mr. and Mrs. Richard Larson
Mr. and Mrs. Mark Thomas

In Memory of Betty Enez

Ms. Burri, Boyd Coffee Company

In Memory of John R. Feehan

Ms. Kathleen Malinski and
Ms. Dorothy Feehan

In Memory of Donald Geib

Ms. Mary Geib

In Memory of Leon Gibson

Ms. Suzanne Sonnenberg

In Memory of Bryan Hsiung

Ms. Victoria Hsiung

In Memory of Dr. Marion Jabczynski

Mr. and Mrs. David Emery

In Memory of Paolo La Ferla

Mr. and Mrs. Hsin Liu
Drs. Stephanie and James Moore
Mrs. Linda Scheck

In Memory of Rebecca Yasuko Larsen

Ms. Gillian Bradshaw

In Memory of Ruth Mary Light

Ms. Thelma Bettancourt

In Memory of Mr. K. L. Liu (and In Honor of Luter Liu)

Mrs. Linda Scheck

In Memory of Douglas Maron

Ms. Shari L. Maron

In Memory of Donald F. McAllister

Ms. Elinor Bratton
Ms. Evelyn Dashiell
Ms. Gladys Halpin
Mr. and Mrs. Mel Johnson
Mr. and Mrs. Albert Knight
Mr. and Mrs. Telford Lodden
Ms. Betty Snider

In Memory of Modena J. McFarlane

Mr. Harlan Leonard

In Memory of Carol (Becky) McGaugh

Ms. Audrey M. Schneiderman

In Memory of Grace Pinto

Mr. and Mrs. Anthony Zingale

In Memory of James W. Robertson

Ms. Darlene Robertson

In Memory of Carmen Ruiz

Dr. Elsie Hidalgo
Dr. Lynn Hunt
Ms. Alison Jones

In Memory of Mr. Isadore (Irv) Schreilberg

Mr. Doug Herzog
Ms. Jacquelyn Haddox

In Memory of Garrett Sidler

Mr. and Mrs. Clark Leonard
Ms. Penny Cunard
Ms. Jennifer Deitsch
Mr. and Mrs. Chuck Elliot
Mr. Doug Elliot
Ms. Pamela Garcia
Ms. Judy Michael
Col. and Mrs. Charles Smillie Jr.

In Memory of Dr. Stanley and Gerda Siegel

Mr. Benjamin Tani

Continued on next page

Memorials Continued

In Memory of Joe Sieger

Drs. Berkelhamer and Bennett

In Memory of Helen S. Simpson

Mrs. Edith Kingsley

In Memory of Gordon Smale

Ms. Roswitha Smale

In Memory of Lou Steele

Mr. Boyd Steele

In Memory of Einar Stefferud

Mr. and Mrs. Jerry Sweet

In Memory of Anthony Ugolini

Ms. Geni Ugolini

In Memory of Edna West

Ms. Joyce Bragg

In Memory of Dallis Widick

Mr. Randy Bohart and Mr. Ron Widick

In Memory of Zola Williams

Ms. Jennifer DeCoursey

In Memory of Robert Wold and Phyllis Green

Dr. Jacque DuPont

In Memory of Walter Wood

Ms. May Aoyagi

Ms. Jacqueline Bell Dowling and Yahnke, LLC

Mr. and Mrs. Tom Dillon

Joyce and David Greatbanks

Steve and Joyce Grimm

Mr. and Mrs. Glenn Kataoka

Mr. and Mrs. Robert Y. Kodama

Keith S. Kodama

Ms. Trudy Lopez

Mr. John Manning

Mr. and Mrs. John Mizoue

Mr. Paul Mizoue

Ms. Karen Mizoue

Mr. and Mrs. Lance Norris

Mr. Dale Novina

Ms. Betty Peterson and Mr. Harold Zatkovsky

William and Karen Rameson

Ms. Suzi See

Ms. Margaret Sloan

Ms. Deborah Swift

Mr. and Mrs. Richard Tobin

Donations

Ms. Gina Wallar

Ms. Beth Abbott

Dr. and Mrs. Marvin E. Abrams

Dr. and Mrs. Rudolph Baldoni

Ms. Denise Ballester

Mr. and Mrs. Raymond Baugh

Ms. Barbara J. Bean

Ms. Virginia Bernal

Mr. Harry B. Bethke

Ms. Fay Blix

Ms. Shirley Bloom

Ms. Jeannine N. Bonesteele

Ms. Patricia Brajdic

Mr. and Mrs. Nathaniel Brenner

Mr. Harry Bubb

Mr. and Mrs. Charles Bernard Caldwell

Mr. and Mrs. William Campbell

Ms. Valerie Beth Cantwell

Ms. Wendy Cariello

Mr. Thomas C. Casey

Mr. Kenneth Chiate

Ms. Stefani Haunani Ching

Mr. August D. Coby

Mr. A.J. "Tony" Coco

Ms. Sally Conover

Mr. Roger Cregg

Mr. Harry C. Crowell

Ms. Julie David

Mr. and Mrs. John Dominguez

Ms. Jacqueline Doorman

Dr. Jacqueline DuPont

Mr. William Dusablon

Mr. William Edwards

Mr. and Mrs. Robert Eichenberg

Ms. Patricia Ellis

Mr. and Mrs. Bill Emrich

Mr. Sam Faye

Ms. Karen Files

Mr. Edward Florreich

Mr. and Mrs. Daniel T. Flynn

Ms. Cece Cotton Fowler

Ms. Cathy Gaertner

Mr. and Mrs. John Garrett

Mr. and Mrs. Norman Geiser

Mrs. Josephine Herbert Gleis

Mr. Mark Stuart Goldin

Mr. and Mrs. Richard Graham

Ms. Dana Greenia

Mr. and Mrs. Seth Greiner

Mr. and Mrs. Mike Hablitzel

Dr. Barbara Ann Hamkalo

Ronnie Hanecak and Bert L. Semler

Ms. Valerie Hardman

Mr. Carlos Herrera

Mr. and Mrs. Gary Hinman

Ms. Lotte Hoffman

Ms. Shelly Hoss and Mr. Todd Hanson

Ms. Victoria Hsiung

Ms. Carolyn Jensen

Ms. Barbara Jose

Ms. June Y. Kim

Mr. and Mrs. Robert Kleist

Mr. and Mrs. Jason S. Koshi

Mr. and Mrs. Keith Krach

Ms. Lucille Kuehn

Mr. Ken Lawson

Mr. and Mrs. Richard Lehn

Ms. Hilary Lentini

Mr. and Mrs. Harry Liebman

Ms. Carla Liggett

Mr. Roger Lisabeth

Mrs. Alexa Lleigh-Germain

Ms. Becky Lomaka

Mr. and Mrs. Ronald Madaras

Mr. and Mrs. Maguire

Ms. Lauralee Martin

Ms. Suzanne Melin

Mr. Claus Henry Michelsen

Donations Continued

Mr. Ronald B. Miller
 Ms. Diane Mondini
 Drs. Stephanie and James Moore
 Dr. William Moss
 Mr. and Mrs. Robert Naeve
 Dr. and Mrs. Robert Ockner
 Mrs. Nella Webster O'Grady
 Mr. and Mrs. R. R. Otto
 Ms. Joan Pender-Beyer
 Mr. Robert G. Perez
 Drs. James Pick and Rosalyn Laudati
 Mr. and Mrs. Linda and Michael Pimental
 Ms. Judith F. Posnikoff
 Mr. Eric Quade
 Mr. Edward Quilligan
 J. R. Raines
 Mr. and Mrs. Leonard Rich
 Mr. and Mrs. Richard Rockwell
 Mr. John Russo
 Ms. Sandra Thacker Sage
 Mr. and Mrs. Fred Salter, III
 Ms. Pauline M. Schell
 Ms. Audrey Schneiderman
 Mr. Dickson Shafer
 Ms. Marilyn Silverman
 Ms. Helen Simpson
 Mr. Joseph Sirota
 Mr. and Mrs. Rand Sperry
 Mr. and Mrs. James Stanley
 Mr. and Mrs. Strassmayr
 Mr. and Mrs. Tseng Yao Sun
 Mr. and Mrs. Steve Suryan
 Mr. Keith Swayne
 Mr. Joe Sweet
 Ms. Lois P. Taylor
 Mr. and Mrs. Thomas Tierney
 Mr. Jack Toan
 Mr. and Mrs. Leonard Torres
 Mr. James Townsend

Ms. Nancy Trevino
 Dr. Kevin Triggs
 Ms. Carla J. Turney
 Ms. Joanne Udell
 Ms. Susan Unger
 Ms. June L. Van Den Noort
 Mr. and Mrs. Ralph Wallace
 Ms. Barbara Walling
 Ms. Jacqueline Wengrovitz
 Mr. and Mrs. Wellington White
 Ms. Amy Wilcox
 Ms. Holly M. Woesner
 Mr. and Mrs. Jeffrey Worthe
 Mr. and Mrs. Burton Young
 Ms. Kimberley Yourman
 Dr. and Mrs. Lowell Zeleznick



A Memorial Donation is a wonderful way to commemorate a loved one and to help support Alzheimer's disease research. Many families choose to make a lasting donation in memory of a friend or loved one in lieu of flowers. Once the memorial donations have been received, a thank you acknowledgment is sent to the donor.

As requested by the donor, we notify the family or other appropriate individual of the gift. All donors are recognized in the Mind Matters newsletter, unless the donation is designated as anonymous.

2 Simple Steps to Save on Taxes

Even though taxes have risen, there are a few simple steps that you can take to reduce your overall tax bill this year. Contact us to learn more!

1. Reduce investment taxes

The 3.8% Medicare surtax applies to almost any money you earn from investments. Lower your taxable investment income by shifting some of it to family and to charity, such as:

- A child who is not subject to the 3.8% surcharge
- A charity—such as UCI MIND Research and receive an income tax deduction this year

2. Reduce overall income to a lower bracket

Ideally, if you can lower your income below the healthcare tax threshold (\$200,000 for individuals and \$250,000 for married couples) you will avoid the 3.8% surtax. Reduce income by:

- Making a gift of income producing property to family or charity
- Transferring your income producing property to a charitable remainder trust that can help you control your income.

For more information about supporting Alzheimer's Research at UCI MIND, contact Roland Ho, UC Irvine, Office of Planned Giving. Roland.Ho@UCI.Edu or 949-824-6454.

INSTITUTE for MEMORY IMPAIRMENTS
and NEUROLOGICAL DISORDERS
2646 Biological Sciences III
Irvine, CA 92697-4545

Non Profit Org.
US Postage
PAID
Santa Ana, CA
Permit No. 1106

Research Today. Hope Tomorrow.



"Like" UCI MIND on Facebook

MIND Matters is a publication of the UCI Institute for Memory Impairments and Neurological Disorders in collaboration with the Alzheimer's Disease Research Center (ADRC) and the California Alzheimer's Disease Centers (CADC). The ADRC is funded by a grant from the National Institute on Aging and supports and promotes interdisciplinary research on Alzheimer's disease. The CADC is funded by the California Department of Public Health. The CADC provides expert clinical assessments and diagnosis of memory complaints related to Alzheimer's disease and other dementias.

Editor and Layout: Marcelo Soares, Director of Communications and Special Projects, UCI MIND

SAVE THE DATE

Saturday, May 31, 2014

5:30 - 11:00 pm

Lyon Air Museum

19300 Ike Jones Road, Santa Ana, CA 92707

TIME OF YOUR LIFE



2014

Celebrating Classic Memories

Benefiting Alzheimer's disease research at **UCI MIND**

To inquire about sponsorship or tickets, please contact Linda Scheck at 949-824-3251 or lscheck@uci.edu