



# HEALTHWISE

UNIVERSITY of CALIFORNIA, SAN DIEGO SAM and ROSE STEIN INSTITUTE for RESEARCH ON AGING

MAY 2006 • VOL. 26, NO. 2 • ONLINE AT SIRA.UCSD.EDU

## FREE PUBLIC LECTURE



### MAY

Update on Palliative Medical Care

Dr. Laurel Herbst  
*San Diego Hospice*

Wednesday  
May 17, 2006, 7:00 pm  
Garren Auditorium  
Basic Science Building  
University of California, San Diego

### JUNE

Breast Cancer—Unique Issues in the Chronologically Gifted

Dr. Joanne Mortimer  
*Department of Medicine*

Wednesday  
June 22, 2006, 7:00 pm  
Garren Auditorium  
Basic Science Building  
University of California, San Diego

Free parking will be provided for SIRA contributing members. Please call (858) 534-6299 TWO WEEKS BEFORE THE LECTURE to receive your free parking permit. All other lecture attendees must buy a permit at the parking kiosk on Gilman Drive or park at the metered sites.

## SIRA Pilot Grants: New Scientists, New Discoveries

The R in SIRA is research. Research is our commitment, and our passion. UCSD, one of the leading research universities in the world, provides an ideal environment for this research. The public health need is growing as the population of Americans age 65 and over grows from 35 million today to over 70 million in the next 25 years. Along with interest in the length of life—the lifespan, SIRA scientists and colleagues worldwide are looking with interest at years of successful, healthy life—the healthspan. Our best scientists see the healthspan as a combination of people’s genes (G), their brains (B), and the family, social, and cultural environments (E) in which they live. At SIRA we use these Gene x Brain x Environment relationships as the fundamental framework for our research in successful, healthy aging and in diseases that affect older people.

In 2005, SIRA initiated a Junior Faculty Pilot Research Grants program. Pilot studies are needed to demonstrate scientific feasibility. They are, typically, small, highly innovative experiments proposed by bright but inexperienced scientists. Funding for pilot studies is often difficult (and sometimes impossible) to obtain because of their innovation. The goal of this SIRA program is to assist junior faculty members to carry out preliminary or feasibility studies necessary to justify larger scale support of research from an external funding agency such as the National Institutes of Health (NIH) or a private foundation. We solicited innovative research project grant applications related to successful (healthy) aging from junior faculty members at UCSD and associated institutions. We established formal evaluation criteria similar to those used in national

*continued page 2*

<b>UCSD TV</b>	<b>PUBLIC LECTURE SERIES UCSD-TV SCHEDULE</b> Lectures air on Cox Communications • San Diego, ch 66 • Cox North County, ch 69 • Time Warner Cable, ch 18 • Del Mar TV 66, or UHF (without cable), channel 35	<b>Depression in Later Life and What You Should Do about It</b> Dr. Barry D. Lebowitz	5/11	8:00 pm
			5/12	10:00 pm
			5/14	5:00 pm
			5/16	6:00 pm
	<b>The Ins and Outs of Calorie Restriction as an Anti-Aging Therapy</b> Dr. Laura Dugan		5/25	9:00 pm
			5/26	11:00 pm
			5/28	5:00 pm
			5/30	7:00 pm
	<b>Low Back Pain</b> Dr. John F. Chardos		6/8	8:00 pm
			6/9	10:00 pm
			6/11	5:00 pm
			6/13	6:00 pm

For clinical trials at UCSD: <http://health.ucsd.edu/ntrials/>

---

## SIRA Pilot Grants

continued from page 1

research programs and limited the proposals to one year in duration and \$10,000 in support. SIRA's Scientific Advisory Board reviewed the applications and we were able to support the work of five young investigators. Two of these pilot research grants (Stephen Glatt, Ph.D. and Brinda Rana, Ph.D.) focus on genetics (G), two of them (Lisa Eyler, Ph.D. and Dieter Hillert, Ph.D.) focus on brain function (B), and one of them (Debrah Morton, Ph.D.) focuses on environmental issues (E).

In a previous issue of this newsletter we described a SIRA program that began in the summer of 2005 to support medical students in a UCSD laboratory. That program will have its second group of students this summer. The pilot grant program described in this issue constitutes the next step in what is called the "research pipeline," support for scientists at the initial stages of their careers. As these programs become better established, we hope to extend SIRA's scientific program focus and develop our own research laboratories. Funding for all SIRA's programs comes from a mixture of grant funds from the NIH and other agencies, revenue from SIRA's endowment, and specific gifts and donations. With the guidance of the SIRA Community Board of Advisors and the expertise of the UCSD Health Sciences Development Office we look forward to building our funding base and expanding the SIRA research pipeline.

Barry D. Lebowitz, Ph.D.  
Deputy Director

---

## Focused Analysis and High-Throughput Screening of Genes for Successful Aging

Stephen J. Glatt, Ph.D., *Assistant Adjunct Professor, Department of Psychiatry*

Based on prior studies of families and twins, we know that an individual's ability to age successfully is based, in part, on what genes they have inherited. In fact, approximately 30 to 40 percent of the variability in indices of successful aging between any two individuals is driven by genes. This is substantial, but it also highlights the importance of environmental and behavioral factors, which account for the remaining 60 to 70 percent of inter-individual variability in successful aging. Because genes are actually more easily quantifiable and limited in number than environmental and behavioral factors, Stephen Glatt, Ph.D., is aiming to understand the factors that influence successful aging by beginning with a genetic study, with the hope that someday we may understand the full range of factors that influence whether one ages well or not.

In this study, Dr. Glatt is working with

other investigators at SIRA to capitalize on the existing infrastructure of the institute, which includes access to questionnaire data and blood samples provided by a sample of 1,100 individuals. A composite "successful aging score" will be generated based on individuals' answers to questions in the following areas: 1) independent living; 2) positive adaptation; 3) active engagement with life; 5) mastery/growth; 6) life satisfaction/well-being; 7) freedom from disability; and 8) absence of disease. Once those who score highest on this index ("successful agers") and those who score lowest ("unsuccessful agers") are identified, a new genetic analysis tool will be used, called a GeneChip, to identify and compare the frequency of the genes possessed by the two groups.

Genetic studies have several consequences for our understanding of, and ability to influence successful aging.

## Noninvasive Method to Evaluate Status of Vascular System

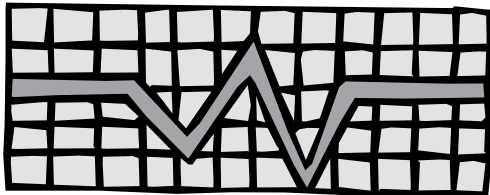
Dr. A. Fronck has developed a noninvasive method to evaluate the status of the vascular system. The procedure is completely painless, takes about 40 minutes, and is approved by the UCSD Human Research Protection Program. Patients with past or present coronary disease (e.g., after bypass surgery or stents implants), patients with positive ekg results, and/or patients with peripheral arterial disease, diabetes, hypercholesterolemia (treated or not treated), or hypertension, are encouraged to participate. Volunteers are invited to call (858) 534-4270 for additional information.

First, identifying and accounting for the genetic contributors to successful aging will facilitate the identification of environmental factors that account for the remaining variability among individuals in their ability to age well. Isolating these genetic and environmental factors will then become important for the development of early identification and intervention protocols for individuals who are not exposed to such factors or have specific mutations that are detrimental to successful aging. Finally, if the genes that influence successful aging are identified, and the functional consequences of such genes become understood (e.g., they result in deficiencies in certain proteins), this may allow successful prevention strategies to be developed at the population level (e.g., dietary supplementation, behavioral modifications, and medical procedures) that can increase the chances of successful aging for all individuals.

## Identification of Candidate Loci and Age-Related Phenotypes for Genetics Association Studies in Successful Aging

Brinda K. Rana, Ph.D., *Molecular Geneticist, Department of Psychiatry*

Many traits (e.g., blood pressure (BP)), as well as the prevalence of diseases (e.g., hypertension), have been observed to change with age. In particular, BP and essential hypertension are highly correlated with aging, and controlling BP has been found to increase longevity and successful aging in individuals by decreasing the risk for age-related diseases that cause physiological or cognitive impairment such as cardiovascular disease, osteoporosis, and Alzheimer's disease. It is therefore important to identify risk factors for the deterioration of cognitive and physiological functions to enable successful aging in the population. A potential major risk factor is an individual's genetic makeup. Brinda Rana, Ph.D., is conducting a study that involves the use of extant genetic data on individuals characterized for a number of physiological traits to understand the interaction of genes with age on traits. Genes identified in this study to play a role in age-related physiological and cognitive deterioration will be used as candidates for future genetic studies on successful aging. The ultimate goal of this and subsequent genetic studies on successful aging is to use genetic information for developing a strategy for therapeutic and environmental intervention in older subjects to enable their successful and healthy aging.



## Brain Functioning Among the Exceptional Elderly: A Functional Magnetic Resonance Pilot Study

Lisa T. Eyler, Ph.D., *Assistant Adjunct Professor, Department of Psychiatry*

While much research has investigated pathological aging and normative aging, there has been relatively less focus on factors that may spare some individuals from the normal, often deleterious, effects of aging. In particular, little is known about the neural correlates of supra-normal aging. A good portion of the effect of age on quality of life is likely to be governed by brain changes. Neuroimaging allows direct observation of the structure and function of the brain. Functional imaging while participants are engaged in a cognitive activity is like a treadmill test for the brain, and allows researchers to understand more about how the brain responds to challenge.

Lisa Eyler, Ph.D., is conducting a study that aims to compare brain response to cognitive challenge among 1) individuals over the age of 65 with a high degree of self-reported life success (across a variety of domains), 2) same-aged individuals with normal levels of success, and 3) younger comparison participants. It is hypothesized that participants over age 65 with a high degree of life success will show a more diffuse (e.g., more bilateral) brain response in the prefrontal cortex (an area important for organization and use of memory strategies) during learning of face-name pairs compared to old, but normally successful participants, and to matched young individuals, reflecting compensation for age-related changes. Participants are recruited from individuals who have completed the SIRA's successful aging questionnaire. After being screened, they undergo both cognitive testing and MRI scanning, which involves the completion of a face-name learning task. Within each person, those brain areas most active when face-name pairs are being viewed and later recalled are identified, with results compared amongst the three study groups.

By understanding more about the brain's functioning among individuals who are successful in many domains of life despite advanced age, it may be possible to design interventions to postpone or eliminate some of the seemingly inevitable changes in quality of life that are normally associated with aging.

## SIRA Community Board of Advisors Celebrates Two Emeritus Members

On Saturday, April 22, 2006, the SIRA Community Board of Advisors and staff gathered to celebrate the accomplishments of new emeritus board members, William Gibbs, Jr. and RADM John F. Shaw (Ret). The event was held at the Coronado home of CBOA member, Ilene Swartz, with many attendees taking the opportunity to recognize the accomplishments and lives of two remarkable individuals, Gibbs and Shaw. Both of these long-standing CBOA members are to be congratulated, not only for their contributions and dedication to SIRA over the years, but also for the precedence they set for those to follow. As SIRA continues to move forward with their research in successful aging, one can't help but look to these two extraordinary people as great examples. Thank you!

## “Will-ful” Planning

With over 50 percent of adult Americans dying without a will, many of us can understand the significance of considering one for the first time, or the need to make changes to an existing will. Here are some important questions for consideration.

### 1. Is my will current?

Tax laws change, and the size and extent of your assets may have changed as well. Updating your will allows you to take advantage of recent tax developments and new estate planning techniques. Your family situation may have changed over the years. Perhaps your estate has grown beyond your earlier estimates. Maybe you've changed your mind about some of your bequests. As time passes and changes occur in your life, you should consider bringing your will “up to speed.”

### 2. Is my will valid?

Have you moved to a different state since creating your will? The laws may differ and your old will may be invalid. Perhaps you prepared your own will and missed something important, like proper signatures. Considering the importance of your last will and testament, it makes good sense to have a reputable estate planning attorney review your current will.

### 3. Is my will safely stored?

Where do you keep the original copy of your will? This is a precious document and is best stored in a bank safety deposit box or other place where it is protected from fire and theft.

### 4. Does my representative know?

It is important that your personal representative knows where to find your will and has access to it. Include a list of accounts, assets, and funeral instructions. Imagine the frustration and added grief if your survivors are unable to fulfill your wishes in settling your estate. There is a fifth question you might also consider: “Have I included my favorite charity in my estate plans?”

If you do update your will—or prepare one for the first time—we hope that The Sam and Rose Stein Institute for Research on Aging (SIRA) at UCSD will be among your favorite charities. There are innovative ways you can use an estate gift to create a legacy, as well as make a difference in treatment and research for generations to come.

We have an excellent brochure, *How To Make a Will That Works*, to assist you with basic estate planning information. We can also provide proper bequest language to you and/or your estate planning attorney. For a free copy of our brochure, contact Geoff Graham at (858) 822-6619. Also, more information is available on our Web site at [www.plannedgiving.ucsd.edu](http://www.plannedgiving.ucsd.edu). If you have already made arrangements for SIRA in your estate plans, let us know. We would like to acknowledge you as a member of our UCSD Legacy Society.

## Sentence Comprehension in Aging: A Coordinated MEG-fMRI Approach

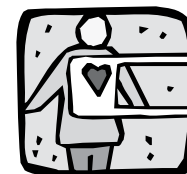
Dieter G. Hillert, Ph.D.,  
*Associate Research Neuroscientist,  
Department of Neurosciences*

In examining age-associated changes of neurological brain activities during complex sentence comprehension, we may be able to predict the risk of a pathological decline in aging. Specifically, we may be able to provide recommendations for possible therapeutic interventions at an early stage of a cognitive decline to reduce the risk of developing mild cognitive impairment, incipient Alzheimer's disease, or other forms of dementia. Dieter Hillert, Ph.D., has selected test material that includes specific sentence types (object-relative sentences) that require the re-activation of the subject of the main clause at the empty object-position in the relative clause. For example, in the sentence *The surfer that the reporter from Waikiki met described the shark accident*, the noun 'surfer' needs to be re-activated after the verb 'met' to understand the sentence. In varying the distance between the subject of the main clause and the empty object-position in the relative clause, demands on verbal short-term memory

continued on page 6

## Healthy Aging in Southern California Indians

Deborah J. Morton, Ph.D.,  
*Assistant Adjunct Professor, Department  
of Family and Preventive Medicine*



The research of Dr. Deborah Morton will be highlighted in the next issue of *Healthwise*.

---

# Recent Donors to the SIRA

*We would like to express our deep appreciation for all those listed, as well as the anonymous donors, who recently chose to provide support to the Sam and Rose Stein Institute for Research on Aging.*

## DONORS

William Bachrach	Thomas A. Hidgon	Roger Rowe
Mr. & Mrs. John S. Benya	Alan Hofmann	Mr. & Mrs. Lewis Rubin
Richard H. Borow	Ms. Marjorie L. Jackson	David Salmon
Mr. & Mrs. Ralph Cerbone	Mr. & Mrs. Paul Kalemkiarian	James L. Sanders
Ernest Clark	Phyllis Myra Kossar	Charlene J. Schade
Audrey N. Clough-Rant	Bess Lambron	Mr. & Mrs. David A. Schlafman
Dale A. Cobb	Ms. Mary Leonard	Charlotte I. Schriefer
Jody Corey-Bloom	Randy L. Lieber	Jeanne Sebrech
Ruth M. Covell	Dalmacio Matibag	Barbara Siniscalchi
Mr. & Mrs. Matt Dalton	Arthur Matula	Jerry L. Sutton
Ms. Victoria C. Davis	Milton Merritt	Philip J. Swanson
Marilyn M. Edwards	David Miller	Mr. & Mrs. James A. Thompson
Mary Ehmcke	Sally Miller	Mrs. Edward O. Vail
Stanley Emerling	Patricia S. Moore	Mr. & Mrs. William H. Watts
Jacob & Dorothy Ettinger	Frances Nadler	Dr. & Mrs. Richard T. Wold
Mary Y. Fujimoto	Herbert Nagler	Kenneth Yan
Robert N. Geib	Martha Pollock	Rev. & Mrs. Fred Zacharias
Barbara & Leonard Gosink	Mr. & Mrs. Martin Rachmeler	Florence Zahn
Mr. & Mrs. Russell Greer	Susan Randerson	Irwin Zahn
Trudy Hart	Janet Richards	Mr. & Mrs. Leland Zimmerman
Howard Hertz	Julian W. Rogers	

---

## SPONSORS

Mr. & Mrs. John S. Callahan  
Michael Criqui  
David A. Liberman  
Dorothy J. Mandelin  
William F. Martz  
Mrs. Marjorie L. Redding  
Jeanne M. Shupala

## BENEFACTORS/CORPORATE

V. DeWitt-Shuck  
Dilip Jeste  
David A. Liberman  
VADM & Mrs. William McCauley  
Debra Vella

## DIRECTOR'S CIRCLE

Arthur Brody  
Martin & Enid Gleich  
Donald & Darlene Shiley

---

## IN MEMORY OF SAM STEIN

Mark & Sally Benito

## IN MEMORY OF LOLA DIXON

Marilyn Bernstein

## IN MEMORY OF SAM STEIN

Arthur Brody & Phyllis Cohn

## IN MEMORY OF ALLAN R. MANDELIN

Dorothy J. Mandelin

## IN MEMORY OF FRANK KONIGES

Mr. & Mrs. Edward Michell

## IN MEMORY OF PAUL MAHONEY

Ms. Jane A. Petroff

## IN MEMORY OF DEE MARCOS

Donald & Darlene Shiley

## COMMUNITY BOARD OF ADVISORS

Muriel E. Baze, M.A.  
Donald F. Billings, C.F.A.  
(President)  
Irving Eisenberg  
Susan Hoekenga, MPA  
Natasha Josefowitz, Ph.D.  
Gloria C. L. Ma, Ph.D.  
Daniel C. Masters, Esquire

Gregory D. Stein, M.D.  
(Secretary/Treasurer)  
Ilene E. Swartz  
Debra Vella, Esquire  
Joanne Sides Watson  
Caroleen L. Williams  
Larry J. Ybarrondo, Ph.D.  
RADM Raymond G. Zeller,  
USN (Ret.)

## EMERITUS MEMBERS

J. Dallas Clark\*  
William Gibbs, Jr.  
Pat Hyndman  
Irwin M. Jacobs, Sc.D.  
Philip M. Klauber  
Marvin L. Krichman

Paul F. Mahoney\*  
Mary Ann McCauley  
Oscar M. Ruebhausen\*  
RADM John F. Shaw, USN (Ret.)  
Dixie Unruh

## HONORARY MEMBER

Sam S. Stein\*

\* *in memoriam*

## STAFF

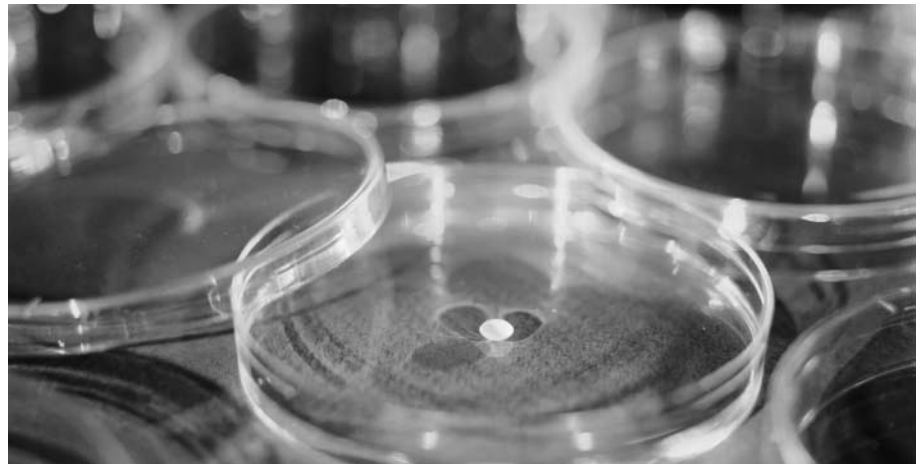
Director: *Dilip V. Jeste, M.D.*  
Deputy Director: *Barry D. Lebowitz, Ph.D.*  
Associate Director: *J.E. Seegmiller, M.D., professor emeritus*  
Program Director: *Jennifer Reichstadt, M.S.*  
Administrative Assistant: *Coty Beirimoj*  
Fund Manager: *Bernard Hernandez*  
Web Master: *Nha Nguyen*

# Sentence Comprehension in Aging

continued from page 4

can be manipulated. Again, in altering specific linguistic properties, it can be determined whether sentence comprehension difficulties are related to word meanings or to the structural relationships between the words. Two different kinds of methods are integrated to optimize the specifications of a risk stage: magneto-resonance imaging (MRI) and magneto-encephalography (MEG). While MRI is superior in specifying the anatomical regions

associated with the neural activity of a cognitive task, MEG is superior in identifying the precise time course of the relevant neural activity. Both data-sets are co-registered to specify the anatomical areas and the time-window when specific sentence comprehension difficulties arise. Long-term follow-up studies will finally inform us to what extent these imaging results predict a pathological decline.



Please write to us at our address if you wish to have your name removed from the list to receive future fundraising requests supporting The Stein Institute for Research on Aging (SIRA).

## ADDRESS SERVICE REQUESTED

PHONE: (858) 534-6299

WEB SITE: [sira.ucsd.edu](http://sira.ucsd.edu)

EMAIL: [steininstitute@ucsd.edu](mailto:steininstitute@ucsd.edu)

For clinical trials at UCSD: <http://health.ucsd.edu/ntrials/>

UNIVERSITY of CALIFORNIA, SAN DIEGO  
SAM and ROSE STEIN INSTITUTE for RESEARCH ON AGING

Non-Profit Org.  
U.S. Postage  
PAID  
San Diego, CA  
Permit No. 1909



Printed on Recycled Paper

0506-429