



ISSUE 9
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**Facts about
the BRAIN:**

- Your skin weighs twice as much as your brain.
- While most neurons have 1,000-10,000 synapses, some have up to 200,000.
- While an elephant's brain is physically larger than a human brain, the human brain is 2% of total body weight, meaning humans have the largest brain to body size.

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NEURO TIMES

The newsletter of the
Center for the Neurobiology of
Learning and Memory

In the Spotlight

Dr. Barbara Doshier, CNLM Fellow, Dean of UC Irvine's School of Social Sciences, and Professor of Cognitive Sciences, has been elected to the National Academy of Sciences (NAS), an honor considered one of the highest in scientific research. She is one of 72 new members and 18 foreign associates being recognized by the prestigious academy this year for their distinguished and continuing achievements in research. NAS membership now totals 2,113, including 26 members from UCI – three of them CNLM Fellows (Dr. Doshier joins Elizabeth Loftus and James McGaugh). Jim McGaugh said, "I was, of course, extremely pleased that Barbara Doshier's extensive seminal research was recognized by her election to membership in the National Academy of Sciences. Her investigations have significantly increased understanding of how our experiences alter our perceptions."

Barbara received her bachelor's degree in psychology from UC San Diego and master's and doctoral degrees in experimental psychology from the University of Oregon. She was a Professor of Psychology at Columbia University for 15 years before joining the UCI faculty in 1992 and the CNLM in 1997. In addition to her work as a dean and professor, Barbara dedicates a significant amount of time to other administrative matters on campus, including serving on the board of the Irvine Campus Housing Authority, and acting as a member of the Chancellor's Advisory Committee and a member of the Academic Council.

Barbara is widely known for her research on attention, perceptual learning and memory. Using a combination of behavioral testing and mathematical modeling, Barbara studies how

humans perceive, remember, and retrieve information. Her recent research investigates how learning and attention improve performance in perceptual tasks. In a typical task, experimental participants are asked to distinguish a particular object from other, potentially similar objects. As participants gain experience with the task and with the object, performance often improves. Once the perceptual task is well-learned, conscious attention may no longer be needed to process and distinguish the objects.

You can liken the change in attention to first learning to ride a bicycle and then later having mastered the riding—you no longer have to pay attention to the act of riding. How does this happen and why? Her work aims to address these questions, examining how attention and memory work together to promote this learning. Understanding how we learn perceptual skills can tell us a great deal about brain plasticity and learning. Barbara's basic research may help us learn how to teach new skills better and how to improve retraining for individuals with perceptual deficits due to low vision or other conditions such as dyslexia or amblyopia (lazy eye).

In another research project Barbara separates two different forms of attention that either filter out irrelevant things or improve how we see a selected object. The ability to pay attention is disrupted in many mental health conditions from attention deficit disorders to schizophrenia. Tests for these two distinct forms of attention may help us to understand the specific deficits associated with different mental health conditions, and perhaps— together with perceptual training— may provide approaches to specific remediation.

For more information about Barbara's research please visit our website: www.cnlm.uci.edu/faculty.



Barbara Doshier

"A smile happens in a flash, but a memory can last a lifetime"

-Anonymous

Director's Corner

Those of you who were at last year's McGaugh Chair celebration heard UCI's Executive Vice Chancellor and Provost Michael Gottfredson say some pretty remarkable things about the CNLM. We are a "world class Center" that brings a "profound strength to this campus" and truly a "crown jewel" of UCI. One part of how we got here is that we have an inspiring group of researchers working on answering both fundamental questions like, *"How do we learn and how do our experiences shape who we are?"* and applied questions like, *"How do we help people suffering from memory-related disorders like drug addiction, depression, PTSD, schizophrenia, or Alzheimer's?"* A second part Dr. Gottfredson also noted is that the CNLM "organizes how we do research in a different way" — a multidisciplinary way now being replicated at other research institutes across the world."

There's a third part to how we got here. We've had invaluable support not just from UCI, but also from dedicated people like you who

embrace our mission and want to help in our success. We would not be here, the preeminent research center aimed at learning and memory, without this support.

Today, this support is more important than ever. The UC state budget has already been cut by about 30% over the last four years with more cuts on the way. With these budgetary realities, even a Center with a profile as high as the CNLM's can't escape severe cuts in funding. Drastic reductions in our funding from the university have already come and we anticipate even more as UCI makes very tough budgetary decisions in these difficult times. As we restructure and adapt to these changes, your support is vital to help us maintain our educational, outreach, and research programs. In this issue, you'll find information on an IRA roll-over opportunity now available. You'll also find information on our upcoming silent auction and evening with Marilu Henner. It's going to be a great show and a memorable evening. I hope to see you there!

CNLM Awards

The CNLM is proud to announce the CNLM 2011 student award recipients. Awards were presented at a ceremony in the late spring:

Renée Harwick Advanced Graduate Student Award – Melissa Malvaez in the laboratory of Dr.

Marcelo Wood.

Roger W. Russell Scholar's Award – Maria del Rosario Torres in the laboratory of Dr. Jorge Busciglio.

Carol Becker McGaugh Award – Mukti Patel in the laboratory of Dr. Claudia Kawas.

Friends of the CNLM Summer Awards for Undergraduates – Soraya Azzawi in the laboratory of Dr. Marcelo Wood, Mukti Patel in the laboratory of Dr. Claudia Kawas and Lizabeth Weiss in the laboratory of Dr. James McGaugh.

Friends of the CNLM Summer Awards for High School Students – Scarlett Varney from Dana Hills High School, who worked this summer in the laboratory of Dr. Marcelo Wood, and Isabella Gomes from University High School who worked in the laboratory of Dr. Claudia Kawas.

The CNLM Foreign Graduate Student and the Renée Harwick Visiting Scholar for 2011 is Bianca Julieta Vizcarra Chacon, a graduate student from the National University of Mexico. She is working in the laboratory of Dr. Raju Metherate.

CNLM Fellow, Georg Striedter, was recognized with an award at the School of Biological Science's 2011 Celebration of Teaching. Biological Sciences Dean Albert Bennett praised Georg not only his dedication and enthusiasm for teaching, but for his strong commitment to improving undergraduate training. Dean Bennett also noted Georg's ability to present material in a way that students respond to with tremendous enthusiasm.

Congratulations to all our awardees!



Craig Stark, Renee Harwick, Melissa Malvaez and Marcelo Wood

IRA Rollover Opportunity

The IRA Charitable Rollover provision is an option available to our donors which can be used to help support the CNLM.

- The provision is in effect through December 31, 2011.
- You must be 70 1/2 or older on the date of the distribution in order to participate.
- Disbursements must be made directly to a qualified public charity, such as the UC Irvine Foundation (for use by the CNLM).

- You may rollover up to \$100,000 per person
- IRA Charitable Rollover gifts are not deductible, but the distribution will be excluded from your income for federal tax purposes.
- You can count the amount of the distribution towards your Required Minimum Distribution for the IRA.

If you would take advantage of the IRA Rollover provision to support the mission of the CNLM, please contact Roland Ho at 949.824.6454 or email him at roland.ho@uci.edu.

CNLM is proud to present *memorable* A EVENING

SILENT AUCTION AND DINNER
FRIDAY, NOVEMBER 4, 2011
6:30 TO 10:00 PM

UNIVERSITY CLUB AT UC IRVINE
ENTERTAINMENT COURTESY OF Marilu Henner



Photographed by Liz Carney

Cocktail attire. Space is limited to 150 guests. All proceeds will go directly to the CNLM and its programs.

FEATURED ITEMS TO LOOK FORWARD TO

STARKS AND STARS

Enjoy a star viewing evening with your private star guide CNLM Director, Dr. Craig Stark. Sip some wine and nibble on cheese while navigating through the galaxy. Don't forget to make a wish on any shooting stars!

DINNER FOR 8 - DON'T BE LATE

Enjoy a wonderful gourmet home cooked meal by The White Apron's Chef de cuisine, Jan Morrow. You will have two special guests joining you— Jim McGaugh and Marilu Henner! Wine and music will be provided by Jim McGaugh. Your guests' palates and ears will be pleased all night.

Response

Your response is requested by October 21, 2011

Yes! I wish to attend *A Memorable Evening*

- I would like _____ individual reservations at \$100 per person.
- I am unable to attend but would like to help the CNLM by enclosing a tax-deductible contribution of \$_____

Please complete the following:

Name: _____ Address: _____
City, State and Zip _____ Phone: _____ E-Mail: _____

Please make check out to: UC REGENTS (in support of the CNLM)

Please charge \$_____ to my: (circle one) MasterCard Visa American Express

Card Number: _____ Expiration Date: _____ Signature _____

501(c) (3) non-profit Tax ID # 95-2226406. All contributions in excess of \$60 per person may be considered tax-deductible to the maximum amount allowed by law. Please consult your financial advisor to determine your allowable deductions.

Please return to: CNLM A Memorable Evening
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Join us for a special evening - November 4, 2011 - Details inside

Join us *for an evening of great fun and
entertainment, and for an opportunity to
show your support for the CNLM*

Memory is at the heart of who we are. Scientists at the Center for the Neurobiology of Learning and Memory (CNLM) at the University of California, Irvine (UCI) investigate how brains acquire, store and retrieve memories. Our research guides the understanding and treatment of disorders and diseases with ties to memory – drug addiction, post-traumatic stress disorder (PTSD), depression, schizophrenia, as well as memory deficit disorders such as Alzheimer's disease. The CNLM is also very dedicated to community outreach and education. Our outreach activities include a public lecture series, school tours of our facilities and student internships.

Cuts to the University of California's budget have drastically impacted the CNLM. The budget to support our basic administration and operations costs is being virtually eliminated. This is a real crisis for us, because without the ability to fund our excellent staff and maintain our facilities, the CNLM cannot continue to foster research excellence nor provide information on the brain to the community.

WE NEED YOUR HELP

to continue the programs that are so very vital to the community and to the understanding of brain function and health.

Marilu Henner

Marilu is a 5-time Golden Globe nominee, a Broadway star of "Chicago" and "Grease" and played Elaine Nardo on television's "Taxi." Her recent appearance on the Emmy nominated "60 Minutes," *Endless Memory*, introduced the world to her superior autobiographical memory gift. She is currently working on a book entitled "Total Memory Makeover: Uncover your past; take charge of your future!" which is due out in February and is a consultant on the upcoming television series, "Unforgettable." Her performance promises to be a fun trip down Memory Lane. Marilu will also entertain us with a lively Q&A with researcher and CNLM Fellow Jim McGaugh.

