



NEURO TIMES

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

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Facts about the BRAIN:

- While men's brains on average are 11% heavier and have 4% more cells than woman's brains, woman have more dendritic connections between neurons and a larger corpus callosum. These are just a few of the differences in the brains of men and women.
- Sleepwalkers are not acting out their dreams. During REM (dream) sleep our muscles are quieted and there is very little movement, but for our moving eyes.

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In the Spotlight

The Center for the Neurobiology of Learning and Memory would like to introduce a new addition to our team of neurobiologists, Dr. Karina S. Cramer. Dr. Cramer came to UC Irvine in 2002 to join the faculty of the Department of Neurobiology and Behavior. Her research focuses on nervous system development and plasticity, with a focus on auditory pathways.

Karina received her undergraduate degree from the University of California, Berkeley where she studied molecular biology. She later pursued her graduate degree at the California Institute of Technology, studying the development of the neuromuscular junction in mammals, and received her Ph.D. in 1992. Soon after, she went to Massachusetts Institute of Technology where she conducted postdoctoral research in the area of activity-dependent development in the mammalian visual system. Karina then moved on to University of Washington, Seattle on a postdoctoral fellowship and "graduated" to become a research assistant professor where she studied the mechanisms of development in the auditory brainstem.



Karina S. Cramer

Karina's current research looks at the embryonic origin and development of auditory brainstem nuclei and their synaptic connections. She investigates the molecular mechanisms underlying the formation of the precise connections of neurons in the auditory system. Her research also focuses on how these molecular mechanisms of development are related to the processes used by the brain to change and repair itself when connec-

tions in the auditory brainstem are altered following injury or other changes in auditory input. These studies provide insight into brain reorganization and contribute to the understanding of how the brain repairs itself. She finds it fascinating that auditory neurons can find the right "partner" neuron to connect with both during development and during repair after the loss of in-

put. How the location and strength of synaptic connections is controlled is a fundamental research question being asked by neuroscientists, including those studying learning and memory. One of Karina's goals is to figure out how we can take advantage of what we know about development to try to understand brain plasticity. She hopes her research will give help to those who have suffered hearing loss or brain injury.

Karina will add a new perspective to the CNLM, and represents the diversity of research interests in the Center. Her research will help bridge the gap between understanding memory at the neural and systems level. The addition of Karina to the CNLM contributes to the variety of approaches to studying learning and memory on which the Center prides itself.

Karina is very excited to be part of the CNLM. She realizes the possibilities for collaboration are endless. To read more about Karina's research please visit our website: www.cnlm.uci.edu/faculty.

Multiple Award Recipients at the CNLM



Audrey Schneiderman and Ruth Barrett

“Research is four things: brains with which to think, eyes with which to see, machines with which to measure, and fourth, money.”

-Albert Szent-Gyorgyi

Every year, UCI’s Academic Senate Scholarly Awards and Honors Committee solicits nominations for seven awards that recognize outstanding teaching, research and service by fac-

ulty on the UCI campus. This year one of our CNLM Fellows, Dr. Marcelo Wood, received the Distinguished Assistant Professor Award for Teaching. Marcelo was praised not only for his amazing ability to teach the fundamentals of neuroscience, but also his ability to inspire students to think critically. This is not the first time Marcelo has been acknowledged for his outstanding teaching. In spring 2008 he was recognized by UCI’s School of Biological Sciences for excellence in undergraduate teaching.

CNLM graduate students Melissa Malvaez, Christine

Charvet and Ruth Barrett all received awards given through the School of Biological Sciences. Melissa, a graduate student of Dr. Marcelo Wood, was awarded the Edward Steinhaus Teaching Award, which is presented to outstanding graduate students in biological sciences courses with promising futures as educators. Christine, a graduate student of Dr. Georg Striedter, was awarded the Fine Science Tools Graduate Travel Award, which is a travel award given to a graduate student to attend a national meeting, and is selected based on the quality of an abstract submitted by the student. Ruth, also a graduate student of Dr. Marcelo Wood, was awarded the Howard A. Schneiderman Fellowship Award which recognizes excellence in research accomplishments by graduate students who have completed their second year of study.

Dr. James L. McGaugh has been selected to receive the American Philosophical Society’s 2009 Karl Spencer Lashley Award. Established in 1957 by Lashley, a society member and

distinguished neuroscientist and neuropsychologist, the award recognizes McGaugh’s outstanding research on the integrative neuroscience of behavior. He joins CNLM Fellows Richard Thompson (2007) and Larry Squire (1995) among a list of distinguished neuroscientists who have received the award.

Jim was also awarded the Norman Anderson Lifetime Achievement Award from the Society of Experimental Psychologists which is endowed to recognize individuals who have made outstanding contributions to psychology over the course of their career. He was commended “for a lifetime of scientific work illuminating the mechanisms by which events that occur after learning influence the consolidation and storage of memory.”

Congratulations Marcelo, Melissa, Christine, Ruth and Jim!

Meet our Donors Featuring Dr. Renée Harwick

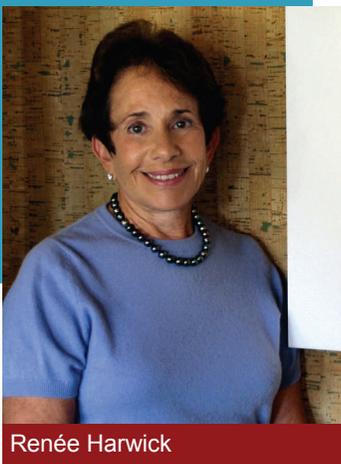
Dr. Renée Harwick, a friendly face you may have seen at the CNLM, has been a dedicated donor to the Center for many years now. Dr. Harwick has been very supportive of our lectures, awards and renovations. She has endowed two awards at the Center; the first is the Renée Harwick Advanced Graduate Student Award, which is awarded yearly to a graduate student who shows outstanding scientific promise, and the second is the Renée Harwick Visiting Scholars Award which helps provide support for foreign graduate students to visit and work in a CNLM lab. Upon Dr. Craig Stark’s appointment as a new

faculty member in 2008, she helped fund the renovation to prepare his laboratory in the CNLM. She is also a long time Friend of the CNLM and a member of the Center’s external steering committee.

Dr. Harwick grew up in New York and moved to California when she was 14. She attended UCLA, majoring in psychology and graduating Phi Beta Kappa. She then received her Ph.D in Neuroendocrinology and worked as a postdoc at the Long Beach VA and the West Los Angeles VA. She also had an adjunct appointment in the Psychiatry Department at UCLA. After moving to Newport Beach, she became an investor which allowed her to contribute to her “first love,” CNS

control of learning and memory. She feels that by donating to causes like this it gives others the opportunity to be able to advance in science.

Dr. Harwick is on the advisory board for the Susan Samueli Center for Integrative Medicine at UCI. She has been a docent for 15 years at the Orange County Museum of Art and she belongs to the Philharmonic Society. Also, she is on the Dinner with Scholars committee at the Merage Jewish Community Center, which raises funds for teenage Jewish programs. When she has spare time, she enjoys gardening and playing tennis.



Renée Harwick

Welcome to the latest edition of our newsletter. It comes at the beginning of a new academic year that promises both increased momentum in the research activities of the Center's Fellows, fuelled by their continuing success in winning grant funding (see the article in this edition), and major challenges posed by the recent drastic cut in State funds to the University and, consequently, to the Center. Unfortunately, we are unable to use money from grants – which are allocated to specific research projects – to replace the general funds no longer available from the University. Therefore we must rely on the combination of internal econo-

mies and the generosity of our supporters in the community to plug the 'funding gap' that has opened up. We are fortunate indeed to have benefited from the support of so many of you in the past, and are hopeful that with your continuing help we will be able to carry on fulfilling our scientific and educational missions in the years ahead. I'm delighted to say that we shall certainly be fulfilling these missions in the coming year: as well as our usual program of scientific colloquia and meetings, and our annual research symposium in the Spring, we shall be welcoming around seven schools to the Center and, in the New Year, again hosting public lectures at the Barclay Theater

here on campus. We very much look forward to seeing you at these lectures as well as other events here at the Center.



Michael D. Rugg

The Importance of Grants

The success of research at UCI, as at all major universities, depends upon grant funding. Without grants, most research would cease, and scientific discovery and progress toward new or improved medical treatments would come to a halt. The National Institutes of Health (NIH) is the world's largest financial supporter of basic research, and is the granting agency that many of our CNLM Fellows depend upon to fund their research. Obtaining funding from the NIH – where all funding decisions are based on the outcome of peer review - is extremely competitive. For

example, of the 43,000 applications for funding received by NIH in 2008, only 22% were funded.

We are pleased to say that our Fellows continue to be very successful in winning funding from NIH. Just in the past six months, nearly \$9 million has been awarded to CNLM faculty at UC Irvine. In addition to equipment and materials, these grants provide support for the majority of our graduate students and postdoctoral scientists, the people who will become the next generation of biomedical research scientists.

Like other scientists who depend on federal funding to support their research, we hope that Congress will approve increases in the annual appropriation to the NIH and other research agencies such as the National Science Foundation. It is important to stress to Congress that research funding is the key to the discovery of treatments that will prevent or lessen the impact of devastating disorders such as Alzheimer's disease, depression, post-traumatic stress disorder, and addiction. We hope that you will contact your representatives and let them know that you support biomedical research and consider it a funding priority.

In Remembrance



Carol Joyce Becker
McGaugh

Carol Joyce Becker McGaugh, known to everyone as Becky, passed away peacefully on June 19th after a long battle with Parkinson's Disease. She will be deeply missed by so many

who were graced by her love. She is survived by her husband James (Jim), the CNLM's founding director, her son Douglas McGaugh and his wife Lynne, her daughter Janice Morrow and her husband Bill, and her daughter Linda Alva, as well as her seven grandchildren. A celebration of her life was held on July 15th at UCI's University Club. Known as the *First Lady of the CNLM*, Becky was always an enthusiastic and proud supporter of our institute. We will miss her.

Kathleen "Kay" Fortescue Russell

Kathleen "Kay" Fortescue Russell passed away July 25, 2009 from complications of a massive stroke. Kay was the wife of CNLM Fellow Roger Russell who passed away 11 years ago on the same date. Kay was always thrilled to travel to the CNLM every year from her home in Atlanta to present students with the Roger Russell Scholars Award. The award was established in 1998 to honor students who possessed the same fine qualities as Dr. Russell. Kay is survived by her devoted family, Jon and Kathi Russell, Gillian, Justina and Johnny Mason and many friends.



Mark Rosenzweig

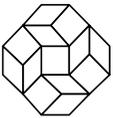
The science world is feeling a little empty with the passing of Dr. Mark Rosenzweig on July 20, 2009. Dr. Rosenzweig, a research psychologist at UC Berkeley, was an active CNLM Fellow in the early years of the institute. He pioneered studies in animals showing that the brain reshapes itself in response to experience, in adulthood as well as in early childhood. In addition, his earlier research into auditory perception also laid the groundwork for modern, noninvasive hearing tests. His wife of 61 years, the former Janine Chappat, died last year. He is survived by two daughters, Anne Janine Rosenzweig and Suzanne Jacqueline Washburn; a son, Philip Mark Rosenzweig; a sister, Patty Epstein; six grandchildren; and two great-grandchildren.



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Special Events

The 16th UCI Distinguished Lecture Series on Brain, Learning and Memory

*All lectures are held at the
Irvine Barclay Theatre
4242 Campus Drive*

*Tuesday, February 2
Dr. Denise C. Park,
University of Texas, Dallas*

*Tuesday, March 16
Dr. Steven C. Cramer
University of California, Irvine*



Ways you can become involved...

- * Join our Friends
- * Become a tour docent
- * Buy a brick on Memory Lane
- * Support the CNLM operations
- * Attend a scientific colloquium or public lecture
- * Name a garden bench
- * Visit our website:
<http://www.cnlm.uci.edu>

Dr. Frank LaFerla, CNLM Fellow and Director of the Institute for Memory Impairments and Neurological Disorders (MIND) had an open house celebration on September 15. A lecture was given by Dr. Claudia Kawas, CNLM Fellow, and tours were offered through their new laboratory space in the new building, Biological Sciences III. An artwork exhibit painted by Alzheimer's patients was also on display. The artwork will be on a long term loan to UCI MIND so please stop by the third floor to view them.

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