



NEURO TIMES



UCI CNLM
Ayala School of Biological Sciences

Center for the Neurobiology
of Learning & Memory

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Basic Science Saves Lives - an idea worth remembering

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The idea is not novel, but it is too often forgotten. Particularly in today's political climate, the value of basic scientific pursuit and discovery is frequently challenged if not undermined. This is perhaps strange as science, by its very nature, is nonpartisan. It transcends political boundaries and reaches across all divides to unite us behind a common cause - to advance our collective state of knowledge, such that we may address humanity's greatest challenges.

Not long ago, Newt Gingrich wrote an op-ed in The New York Times calling for the National Institutes of Health funding for basic research to be doubled. He made the compelling case that it is a fiscally conservative policy, because more basic research would lead to better treatments, which would reduce federal healthcare spending.

"When it comes to breakthroughs that could cure — not just treat — the most expensive diseases, government is unique. It alone can bring the necessary resources to bear," Gingrich wrote. "And it is ultimately on the hook for the costs of illness. It's irresponsible and shortsighted, not prudent, to let financing for basic research dwindle."

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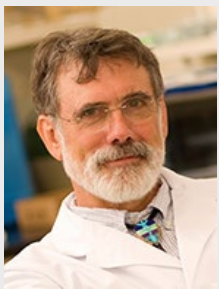
Honors & Awards

Loftus - Maddox Award



Congratulations to CNLM Fellow and Distinguished Professor **Dr. Elizabeth Loftus**, who was awarded the 2016 John Maddox Prize for Standing Up for Science. The Maddox prize is an international award which honors recipients for their courage in promoting science and evidence on a matter of public interest despite facing difficulty and hostility in doing so.

McNaughton - Royal Society of Canada



Congratulations to CNLM Fellow and Distinguished Professor **Dr. Bruce McNaughton** who was elected to the the Royal Society of Canada in 2016. His ground-breaking technological advances as well as experimental and conceptual work contributed significantly to the work awarded the 2014 Nobel Prize in Physiology and Medicine.

Kawas - Potamkin Prize



Congratulations to CNLM Fellow **Dr. Claudia Kawas**, for being selected as one of the recipients of the 2017 American Academy of Neurology Potamkin Prize for Dementia Research. The Potamkin Prize is among the most prestigious awards in neurology. Dr. Kawas joins an elite and distinguished club of world-renowned dementia researchers with this honor.

Yassa - Chancellor's Fellow



Congratulations to CNLM Director, **Dr. Michael Yassa** for being awarded the title of UCI Chancellor's Fellow, a campus title used to honor and recognize tenured scholars of exceptional value to the university, and whose recent achievements in scholarship evidence extraordinary promise for world-class contributions to knowledge and trajectory to distinction.

To read more about the CNLM Fellows' research programs and read their most recent work, please visit

<http://cnlm.uci.edu/fellows>



Basic science, historically, has been at the root of transformational technological innovation. Perhaps the quintessential example is the biotechnology revolution that was borne out of the serendipity of basic research with recombinant DNA technology in the early 1970's.

A more recent example is the advent of "gene-editing" using the CRISPR/Cas9 system, a product of the fundamental question: how does a bacterium cope with a viral attack? This curiosity is what led to one of the most transformative applications in recent history - the very real possibility that genomic "errors" can be corrected, potentially preventing a number of diseases before they even begin.

There are countless more examples of how basic science has been, and will always be the engine of discovery and innovation. It underlies all past and future breakthroughs in neuroscience and is the only means to fill the gaps in our understanding of the brain that prevent us from eradicating brain disease.

Neuroscientists at the CNLM work across all levels of fundamental science from genes all the way to cognition. They also engage in a different breed of translational research - one that is informed by sound basic science, the kind of science that provides the fertile ground from which translational breakthroughs can sprout. This is a message that we aim to spread far and wide. It is a key component of our research as well as our outreach and education endeavors.

We hope you will join the conversation and help support this cause by advocating for basic research and not losing sight of its critical importance for everything from curing brain disease to advancing human civilization.

#basicsciencesaveslives

Director's Message

The brain is as complex as it is powerful. Unlocking the mysteries of the brain is without a doubt one of the most pressing challenges of the 21st century. The impact of such a feat will transform humanity as we know it. It will empower a new generation of innovative technology mimicking and augmenting human intelligence. It will transform how we learn and educate by unlocking the formidable potential of the human mind. It will empower our scientists and clinicians to eradicate brain diseases and promote brain health. UCI has been at the forefront of discovery in neuroscience since the field's inception in 1964 and continues to be the linchpin for a field that has exploded over the last fifty years. In the coming months, the CNLM will work with numerous partners on campus to catalyze a UCI-wide Brain Initiative to fuel discovery in fundamental brain research and to accelerate translational impact to address humanity's greatest challenges.

We are in a very strong position to champion this new endeavor. Over the last six months, we have reached new milestones in federal grant funding as well as private philanthropic support. We have held a number of highly successful public outreach and education events in our local community and inducted 17 new Fellows to join our ranks. Our community's continuing support is critical to this stage in our evolution. The result will be nothing short of extraordinary.



A handwritten signature in blue ink that reads "Michael A. Yassa".

Michael A. Yassa, Ph.D.
Center Director

Newly Inducted Fellows

The CNLM is delighted to welcome our newest Fellows! You will be hearing more about their work in our upcoming newsletters! Nomination and subsequent election to the CNLM Fellowship is a distinguished honor based on majority voting by the current Fellows. All active Fellows contribute to the scientific excellence of the Center.



Dr. Ted Abel
University of Iowa



Dr. Timothy Allen
Florida Int'l University



Dr. Ruth Benca
University of California Irvine



Dr. Federico Bermudez Rattoni
UNAM, Mexico



Dr. Kasia Bieszczad
Rutgers University



Dr. Jennifer Bizon
University of Florida



Dr. Sara Burke
University of Florida



Dr. Laura Colgin
University of Texas, Austin



Dr. Paul Gold
Syracuse University



Dr. Ivan Izquierdo
PUCRS, Porto Alegre, Brazil



Dr. Jack Lin
University of California, Irvine



Dr. Aaron Mattfeld
Florida Int'l University



Dr. Andrew Maurer
University of Florida



Dr. Richard Morris
University of Edinburgh



Dr. David Reinkensmeyer
University of California Irvine



Dr. Barry Setlow
University of Florida



Dr. Wendy Suzuki
New York University

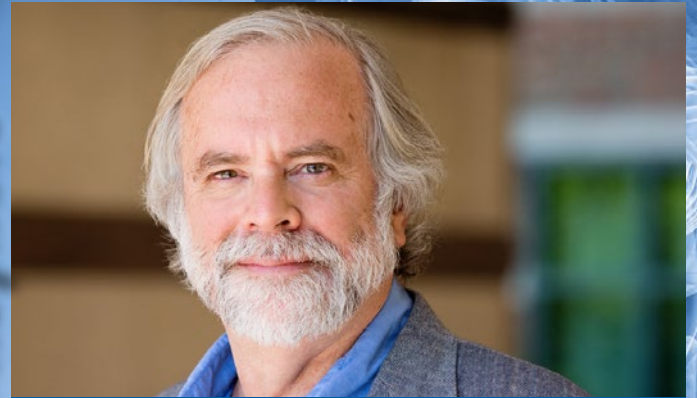
Physical Exercise and Brain Health



On March 2nd, 2017, the CNLM partnered with the UCI Exercise Medicine and Sport Sciences Initiative (EMSSI) to host an international scientific symposium and forum on Physical Exercise and Brain Health where world-renowned scholars shared discoveries on the impact of exercise on brain health and disease and discussed the state of the field and path forward. Speakers emphasized the ability of physical exercise to improve brain function and plasticity, particularly in memory and executive function. They also discussed the need for large-scale studies, the impact of even mild interventions, developing individualized exercise prescriptions, and public policy related to healthy lifestyles and disease prevention. The speakers are now collaborating on a joint commentary highlighting the recommendations from this landmark symposium.

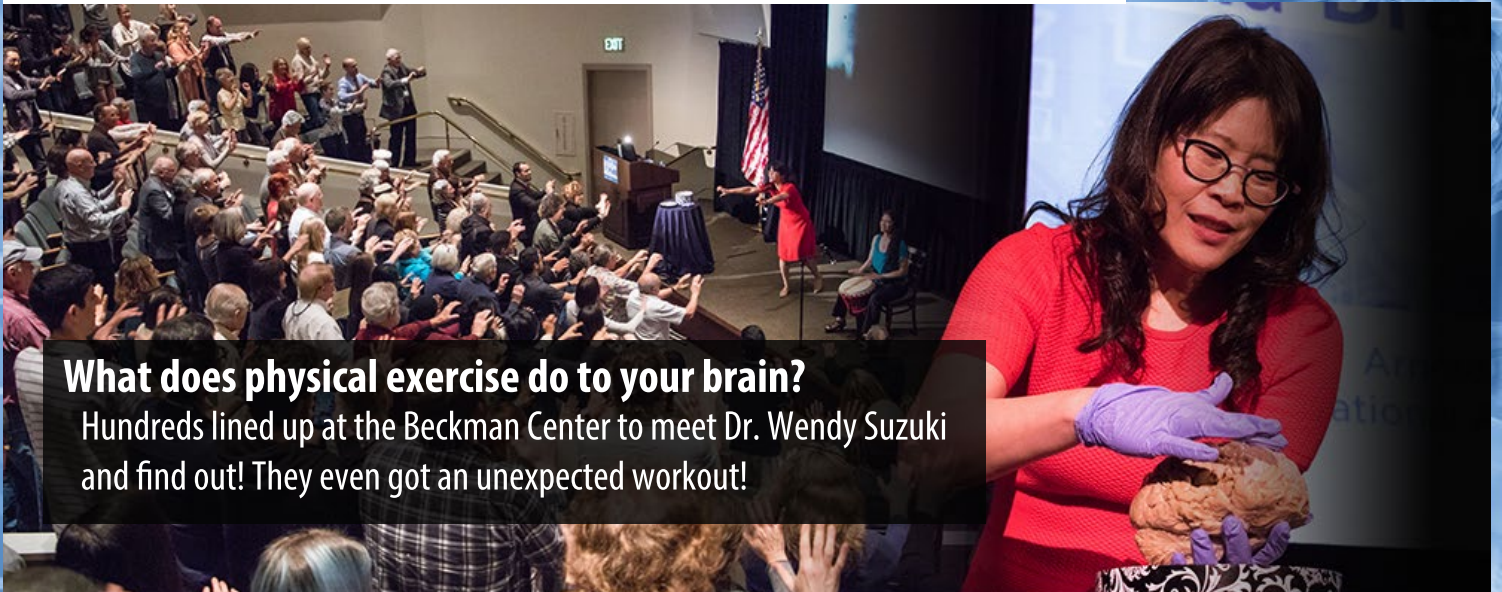
Speakers Keynote

Kirk Erickson, University of Pittsburgh
Michelle Carlson, Johns Hopkins University
Henriette van Praag, National Institute on Aging
Mark Mattson, National Institute on Aging
Laura Baker, Wake Forest University
Carl Cotman, University of California, Irvine
Wendy Suzuki, New York University



Dr. Arthur Kramer, Northeastern University

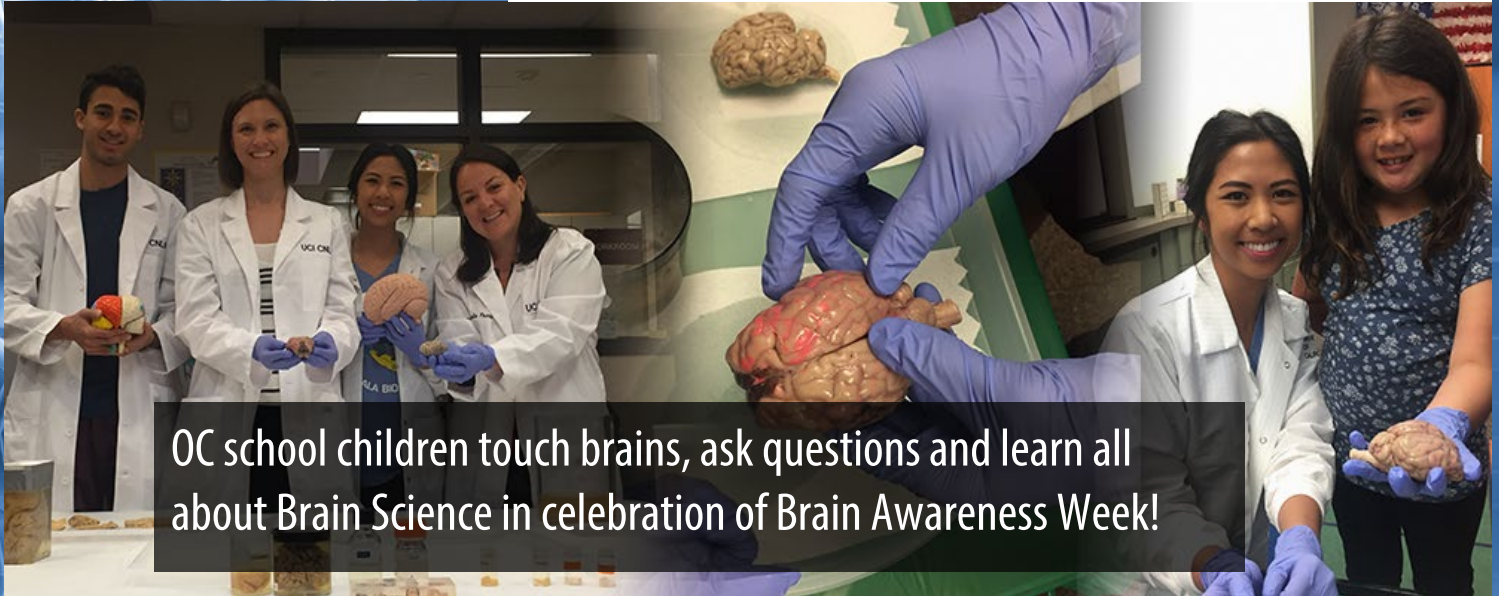
Public Talk by Dr. Wendy Suzuki



What does physical exercise do to your brain?

Hundreds lined up at the Beckman Center to meet Dr. Wendy Suzuki and find out! They even got an unexpected workout!

Brain Awareness Week 2017



OC school children touch brains, ask questions and learn all about Brain Science in celebration of Brain Awareness Week!

Brain Awareness Week (BAW) is a nationwide effort organized by the Dana Alliance for Brain Initiatives and the Society for Neuroscience to promote the public and personal benefits of brain research. The official week for the 2017 BAW was March 13-19. Led by Manuella Yassa, the CNLM's Director of Outreach and Education, a team of CNLM staff and students took tissue samples, workbooks, and other fun BAW materials to Orange County schools to teach children at a young age about the wonders of the brain, as well as how to protect it from injury.

Sleep to Remember & Remember to Sleep



Dr. Ruth Benca attracts capacity audience to the Irvine Barclay Theatre for the

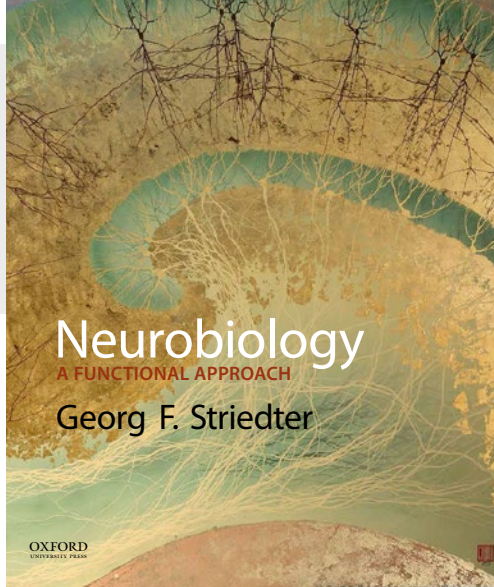
23rd Annual UC Irvine Distinguished Lecture on the Brain, Learning and Memory

watch video at <https://youtu.be/GlvFlo7q22c>

On February 7th, the CNLM, in collaboration with UCI MIND and the Ayala School of Biological Sciences hosted Dr. Ruth Benca, Chair of Psychiatry at UCI, as the speaker for the Distinguished Lecture in Brain, Learning and Memory. Dr. Benca lectured to over 800 community members about how sleep impacts brain health including the effects of sleep loss on memory and increasing risk for psychiatric disorders and dementia. This lecture series was started in 1995 by Dr. Jim McGaugh and continues to be the most well-recognized public outreach event at UCI.

Neurobiology: A Functional Approach

Professor Georg Striedter publishes field's leading text



Students in Professor Georg Striedter's Advanced Neurobiology course were pleasantly surprised at the beginning of the term when they learned the textbook they would be using was written by their own instructor! **Neurobiology: A Functional**



Approach introduces students to the concepts of neurobiology in a unique way. It considers the whole organism and the problems that the brain helps the organism solve. Striedter's background as an evolutionary biologist no doubt had a big role to play in his approach to writing the book. A gifted storyteller, Striedter is passionate about connecting with students and challenging their thinking at the same time. His approach has clearly been effective as the feedback for both the book and his course has been overwhelmingly positive. One reviewer likened it to a classic novel that is also full of deep knowledge of neuroscience. The book also comes loaded with features that enhance learning. "The exercises between the sections tested my knowledge of the bigger picture and helped me to connect concepts," says Erik Navarro, undergraduate in Striedter's class. Writing the field's new leading text is by no means an easy feat. Unlike writing research papers which are reviewed and published with some frequency, writing a scholarly textbook is a long and challenging road that can be an exercise in delayed gratification. Striedter remarks that working with a book publisher can also be a challenge in its own way. There are always compromises on both sides. In the end, it was clearly well worth the effort. This is Striedter's second book and he is already working on his third. Congratulations, Professor Striedter!

McGaugh-Gerard Endowed Lectureship

A tribute to world-class scholarship and a friendship dating back to UCI's inception

The CNLM and the Ayala School of Biological Sciences proudly announce the establishment of the McGaugh Gerard Endowed Lecture on Learning and Memory. The lectures will be free to the public and are intended to encourage public education, scientific discourse and exposure to world class science. This lectureship was made possible by the generous support of two gifts totaling \$260,000 from Dr. James L. McGaugh and the family trust of the late Dr. Ralph W. Gerard.

Drs. McGaugh and Gerard were friends and colleagues who shared a mutual respect for one another as well as for their research in neuroscience. Dr. Gerard arrived at UC Irvine in 1964 and helped founding Chancellor Daniel G. Aldrich, Jr. organize the new campus. He was appointed the first Dean of the Graduate Division. Dr. McGaugh also arrived at UCI in 1964 and was interviewed by Dr. Gerard for the position of founding chair of Psychobiology, which is now known as the Department of Neurobiology and Behavior.



Of Gerard, Dr. McGaugh remarks "I felt privileged to know him, as he had a highly distinguished career in physiology and was one of the founders of the Society for Neuroscience. After he retired he invited me to meet with him in his home on Friday afternoons for many interesting discussions of science, campus activities and other matters." It is a fitting tribute to Gerard's memory and the two scholars' friendship that this lecture bear their names together.

We extend our sincere gratitude to Dr. McGaugh and the Gerard family trust for their philanthropy in establishing this important lectureship at the CNLM to enrich the lives of future generations.

Supporting CNLM Research and Scholars

The CNLM would not exist if it were not for the dedicated community of supporters who share our vision. We have a long history of scientific discovery and a global reputation for advancing the field. More discoveries are around the corner. But we need your help!

Donations, memorials, and honorary gifts: All donations are fully tax-deductible. You can make a donation in any amount in someone's honor or memory. No amount is ever too small. Gifts can be made online at <http://cnlm.uci.edu/gifts>

Memory Lane Dedications: Create a memory that will last forever. The CNLM courtyard is home to cherished memories inscribed on the bricks of our courtyard's Memory Lane and on the benches in our Memorial garden. With donations ranging from \$500 to \$2500 you can memorialize a loved one, honor a friend or colleague, celebrate a special occasion, or champion a cause.

Become a Friend of the CNLM: Friends of the CNLM are community patrons who generously support and sustain the CNLM and its research, education, and service programs through commitments to annual giving. Friends receive access to our newsletter and are invited to join us for special events including our Evenings to Remember lecture series, the annual Distinguished Lectures in Brain, Learning, and Memory, as well as other special interdisciplinary scientific symposia and community lectures. Opportunities to invite CNLM Fellows to give lectures or salons at Friends' homes are also available.

Join the CNLM Legacy Society: The Legacy Society honors supporters who designate the CNLM as a beneficiary of a planned gift. Legacy Society members receive special benefits including invitations to all of our events and seminars including the annual Barclay lectures and our Evenings to Remember series, an invitation to an annual luncheon at the UCI Chancellor's home, as well as exclusive Legacy Society mailings. Gifts include charitable bequests, charitable lead trusts and remainder trusts, charitable gift annuities, as well as retirement accounts. If you wish you could do more for our mission and cause, please consider naming the CNLM in your will. Your bequest will go a long way to supporting our work. For more information on how to join the legacy society please contact Mr. Roland Ho at 949-824-6454 or roland.ho@uci.edu.

Help spread the word: One of the best ways to support the CNLM's activities is by spreading the word about our research mission and our outreach activities. By being an advocate for the CNLM, you can multiply our efforts and educate others passionate about brain science. You can contribute by referring friends and family to learn more about the CNLM, hosting a salon or dinner at your home, or taking part in other fundraising activities including dinners and silent auctions. Show your friends and colleagues why you are passionate about brain science. Invite them to an event!

Please contact Manuella Yassa at memory@uci.edu or (949) 824-5193 to learn more.



My 2016 Summer Lab Experience by: Matt Tsai, Friends of the CNLM Scholar



The perfect research experience is such an urban legend among college students. The ideal laboratory, complete with an attentive principal investigator, amazing graduate students and staff as well as hands-on opportunities to grow in the field, is unheard-of among my peers. Fortunately, I can reassure them now that such an incredible experience does exist on campus, hidden in that one-of-a-kind building we know as the CNLM. My summer research experience within the Translational Neurobiology Laboratory has given me valuable insights into the world of academic research and affirmed a love for neuroscience I will carry well into my medical education. I want to extend my most sincere thanks to the CNLM donors who have made my summer research and education experience possible. I feel very privileged and proud to be a Friends of the CNLM Scholar and will commit to pursuing my education to the fullest and to one day making this financial investment in other students' futures, as the Friends of the CNLM have done for mine.

Each year, the Friends of the CNLM's contributions support summer scholarships for gifted undergraduate students. You can help make a difference in students' lives and provide them with opportunities not otherwise possible by joining the Friends of the CNLM.



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University of California, Irvine

35th Anniversary of the UC Irvine Center for the Neurobiology of Learning and Memory

INTERNATIONAL CONFERENCE | **Neurobiology of Learning and Memory**

Speakers include:

Carol Barnes, Ph.D.
Howard Eichenbaum, Ph.D.
Gary Lynch, Ph.D.
James McGaugh, Ph.D.
Bruce McNaughton, Ph.D.
Richard Morris, Ph.D.
Lynn Nadel, Ph.D.
Daniel Schacter, Ph.D.

Keynote by

Edvard I. Moser, Ph.D.

Symposium proposal deadline: Sep 1, 2017

April 18-22, 2018
Hilton Waterfront | Huntington Beach, CA

learnmem2018.com