UCI MIND Institute for Memory Impairments and Neurological Disorders

SUMMER 2025

MIND Matters

* DMSC Data Management and Statistics
ORE Outreach, Recruitment & Engagement
iPSC Induced Pluripotent Stem Cell
REC Research Education Component

$21 MILLION ADRC GRANT RENEWED

In July, UCI MIND was awarded renewal of its P30 Alzheimer's Disease Research Center (ADRC) grant from the National Institute on Aging, one of the National Institutes of Health.


THE ORANGE COUNTY REGISTER

$21 million grant will help UCI push frontiers in Alzheimer's research

COLUMN: Beware charlatans who prey on desperation and claim they can cure or reverse the disease, director says

The 5-year, $21 million grant will continue to provide funding for groundbreaking Alzheimer's disease and related dementia (ADRD) research and training at UC Irvine.

The grant will also support educational activities to help strengthen brain health literacy in the local community, and was big news, including coverage on the front page of the *Orange County Register* (picture at left).

The UCI ADRC was first established as a joint effort with the University Southern California in 1984 under the direction of Carl Cotman, PhD. UCI became an independent ADRC in 2001, and is the only federally designated center of its kind in Orange County. UCI's ADRC is unique, consisting of 9 cores (figure above), including the network's first induced pluripotent stem cell core and special cores focused on people with Down syndrome and the oldest-old.

The ADRC epitomizes research at UCI MIND—bringing together investigators of unique expertise toward a common goal: to accelerate research in ADRDs.

IN THIS ISSUE

MESSAGE FROM THE DIRECTOR

Visit mind.uci.edu/blog

Dear Friends of **UCI MIND**,

The summer ended with a flurry of positive news for UCI MIND. Thankfully, our NIA P30 grant that makes us Orange County's only federally-funded Alzheimer's Disease Research Center was officially renewed in July (p 1). Then, in September, a team of investigators led by Dr. Ahmad Sajjadi was awarded an additional large clinical research grant that is very much aligned and synergistic with the work of the ADRC (p 6). These grants and the overall portfolio of funded work by UCI MIND investigators position us to not only continue our work, but to increase our impact over the next 5-years and beyond.

Like most work at UCI MIND, the new grants emphasize a team science approach—bringing together experts from different backgrounds to conduct research they couldn't do alone. We also continue to embrace our mission to train and nurture the next generation. We aim to inspire more students to choose careers in aging research and care (p 7) so that we can sustain and grow our impact, even as we bid fond farewell to some of our amazing team members (p 4).

The future is bright for UCI MIND and our mission has never been more important. More and more people are living with disorders that cause dementia; research is the path to having better ways to help them.

Joshua D. Grill, PhD
Director, UCI MIND

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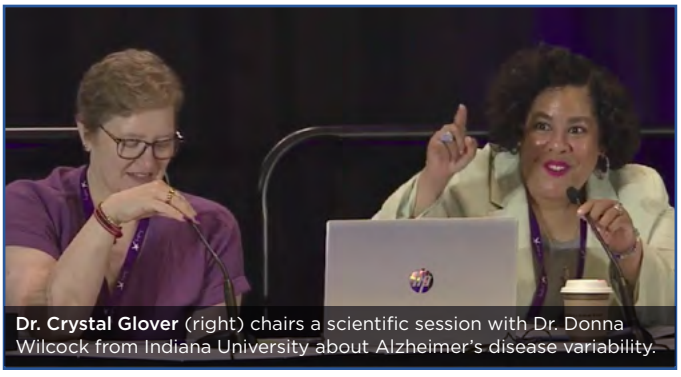
AAIC 2025

UCI MIND HEADS TO TORONTO FOR AAIC

–Melany Medina

A wave of collective momentum carried through the Alzheimer's Association International Conference (AAIC) this year as scientists, physicians, and advocates gathered to share research, celebrate progress and tackle the pressing challenges of Alzheimer's disease and related dementias (ADRD).

Held from July 27th to July 31st in Toronto, Ontario, Canada, AAIC 2025 included nearly 8,000 in person and 3,000 online attendees, with hundreds of scientific talks and more than 6,400 poster presentations. The Alzheimer's Association also offered *AAIC For All*, a free virtual link to the conference's final day, which an estimated additional 8,000 people joined. Highlights from the conference included topline results from the US POINTER trial of lifestyle interventions in older adults at risk for dementia, proposed clinical guidelines for the explosion in blood biomarkers for Alzheimer's disease (AD), and the latest in treatment development, including real-world data with the clinically available anti-amyloid treatments for AD.



Dr. Crystal Glover (right) chairs a scientific session with Dr. Donna Wilcock from Indiana University about Alzheimer's disease variability.

UCI MIND again had a strong presence at this year's conference, with more than 68 poster presentations and 4 invited talks from faculty, staff, and trainees. Topics ranged from understanding sex differences in AD to new strategies for engaging people in preclinical trials, showcasing UCI MIND's dedication to advancing scientific knowledge and translating discoveries into real-world applications.

Associate professor of Neurology and UCI MIND faculty member, S. Ahmad Sajjadi, MD, PhD, participated in a clinical case session with other national experts. Dr. Sajjadi shared insights on a common contributor to dementia called limbic-predominant age-related TDP-43 encephalopathy (LATE), explaining how it can appear similar to AD and why recognizing LATE is critical for a more accurate diagnosis in older adults.

Some UCI MIND trainees also took the stage to present their work for invited oral presentations. Graduate student Ellie Andrews from the Department of Pathology and Laboratory Medicine in Dr. Elizabeth Head's Lab presented her work uncovering sex differences in AD pathology among individuals with Down syndrome. She is also a 2025 AAIC iSTAART Ambassador, a prestigious title given to only a few dozen student scientists worldwide. Adam

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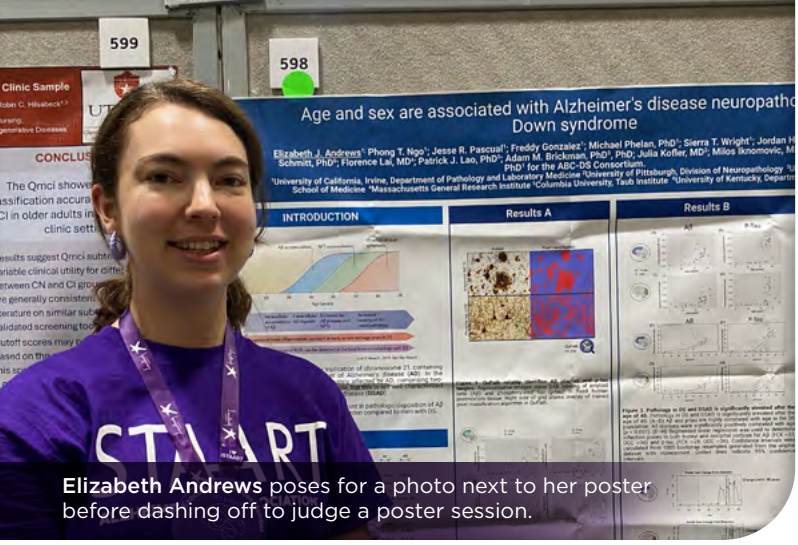


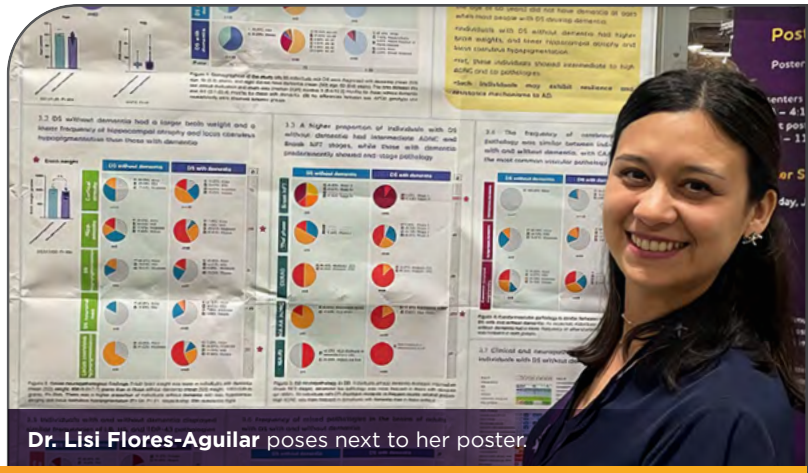
Elizabeth Andrews poses for a photo next to her poster before dashing off to judge a poster session.

Birnbaum, a graduate student in the Statistics Department in Dr. Daniel Gillen's Lab, delivered a platform presentation about incentives to increase participation in preclinical AD trials, and how measurements of research attitudes may be particularly effective at predicting willingness to participate.

Negin Sattari, PhD, a postdoctoral scholar in the Department of Psychiatry and Human Behavior, in Dr. Bryce Mander's Lab delivered a presentation on how sex and genetics interact to influence the relationship between sleep, AD biomarkers, and memory in older adults.

As a special highlight for UCI MIND, three trainees were selected as best poster award winners in their various Alzheimer's Association International Society to Advance Alzheimer's Research and Treatment (ISTAART) Professional Interest Areas (PIA). Paul Gaona-Partida (mentor Daniel Gillen) was selected for the Diversity and Disparities PIA for his poster "Assessing syndromic diagnosis and amyloid burden among racial and ethnic groups in SCAN." Lisi Flores Aguilar, PhD (mentor Elizabeth Head) was selected for the Down Syndrome and Alzheimer's PIA for her poster "Resilience to Alzheimer's disease in individuals with Down Syndrome." And Tiffany Petrisko, PhD (mentor Andrea Tenner) was selected for the Immunity and Neurodegeneration PIA for her poster "Adult global deletion of C1q reduces reactive astrocytes and rescues synaptic loss independently of amyloid phagocytosis in AD mouse model."

Adding to UCI MIND's significant presence, Crystal M. Glover, PhD, chaired a session on Alzheimer's disease heterogeneity, an important topic as new treatments and biomarkers become increasingly available.



Dr. Lisi Flores-Aguilar poses next to her poster.

RETIREMENTS

This summer we bid a fond farewell to a long-time staff member, a dedicated volunteer and an ADRC core leader.

Catherine McAdams, MSN, A/GNP is a nurse practitioner who served at the Alzheimer's Disease Research Center for over 30 years. Catherine played a critical role as a nurse practitioner on several clinical trials and for the longitudinal cohort of the ADRC. Her vast experience made her a mentor to her co-workers and her empathetic nature made her a favorite among research participants. Catherine's own experience caring for a loved-one with dementia was highlighted at our recent annual research conference. "Working with UCI MIND has been one of the most satisfying and rewarding times of my life," says Catherine.

After decades of practicing as a neurologist in the community, **Robert Simon, MD** spent the past 10 years volunteering with UCI MIND, advancing Alzheimer's research through his work with the UCI Alzheimer's Disease Research Center's Longitudinal Study. Through comprehensive neurological assessments and valuable clinical insights, Dr. Simon contributed to a robust foundation of data essential to understanding memory loss and Alzheimer's disease progression. His thoughtful approach and deep commitment to each participant's journey left a lasting impact on both the research and the lives he touched.

David Sultzer, MD, is a board-certified psychiatrist and a Distinguished Fellow of the American Psychiatric Association. Dr. Sultzer is a world-renowned expert in the study and treatment of neuropsychiatric symptoms associated with dementia. He was recruited from UCLA and the West Los Angeles VA to UCI MIND as the Clinical Core leader for the ADRC in 2019. He played a crucial role helping the Clinical Core navigate the COVID-19 pandemic as many studies transitioned back and forth from in-person to remote visits. He was also pivotal in helping to secure renewal of the ADRC P30 grant awarded this year. While Dr. Sultzer will step away from his role as Clinical Core leader for the ADRC, he will continue conducting research and will remain active mentoring early career physicians and scientists.

UNLOCKING A NEW GATEWAY TO THE BRAIN

–Valerie Tung

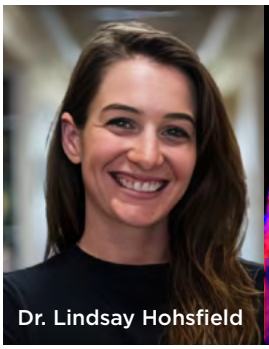
UCI MIND neuroscientist Lindsay Hohsfield, PhD and colleagues have uncovered a previously unrecognized pathway for immune cells to enter the brain, a discovery that could reshape how we understand and treat neurodegenerative conditions like Alzheimer's disease.

In an article published in Neuron, Dr. Hohsfield, Dr. Kim Green, and others describe the velum interpositum (VI), a little-known structure beneath the hippocampus, as a key "immune gateway" into the brain. Traditionally, immune cells were thought to access the brain primarily through the blood-brain barrier or choroid plexus. Dr. Hohsfield's work reveals that this extension of the meninges, the protective membranes surrounding the brain, is rich in immune cells and can serve as a direct route for outer immune cells to infiltrate brain tissue.

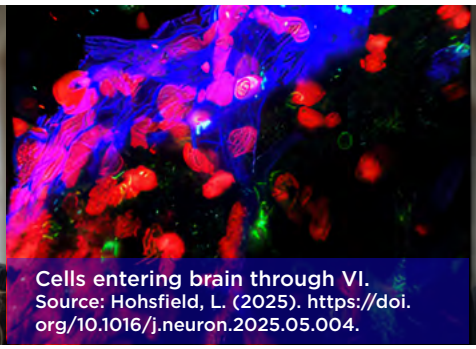
Using advanced imaging and genetic tracing techniques in mice, Dr. Hohsfield demonstrated that the VI becomes especially active in disease states. In models of demyelination, when the protective sheath on a neuron starts to degrade, and during neuroinflammation, immune cells use the VI to migrate into the brain. Her group also developed a low-dose drug strategy to selectively target immune cells in this area, which delayed disease progression in experimental models.

This work was made possible through the collaborative environment at UCI MIND, with contributions from interdisciplinary teams in neurobiology, stem cell biology, and neuroimmunology. The discovery not only deepens our understanding of brain-immune system interactions but also opens new doors for therapeutic strategies that modulate immune entry into the brain.

Dr. Hohsfield's research is a powerful example of the innovation and impact made possible within the UCI MIND community. Her work exemplifies the mission to advance understanding of the brain in both health and disease—one novel discovery at a time. ■

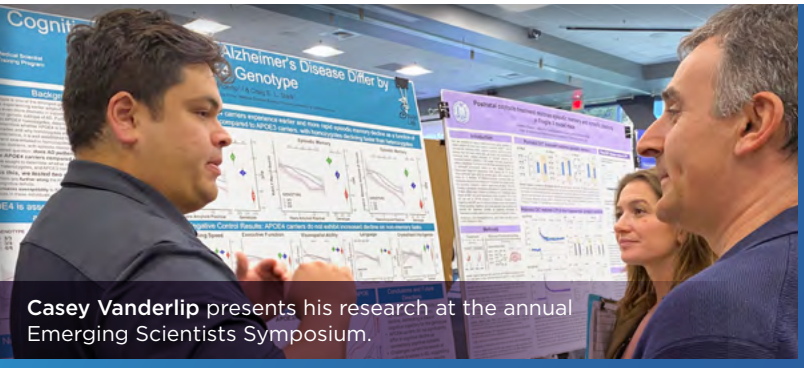


Dr. Lindsay Hohsfield



Cells entering brain through VI.
Source: Hohsfield, L. (2025). https://doi.org/10.1016/j.neuron.2025.05.004.

Dr. Kim Green



Casey Vanderlip presents his research at the annual Emerging Scientists Symposium.

STUDY FROM UCI MIND HIGHLIGHTS LOW-COST APPROACH TO PREDICTING COGNITIVE DECLINE

–Valerie Tung

A recent study from UCI MIND researchers suggests that identifying those at risk for Alzheimer's disease may soon be possible using two simple tools: a blood test and a brief memory assessment.

The study, led by MD/PhD student Casey Vanderlip and Craig Stark, PhD, found that combining a blood-based biomarker, pTau-217, with a 10-minute unsupervised digital memory test can significantly improve prediction of future cognitive decline- even among individuals who are still cognitively normal.

Participants in the study had no clinical symptoms but showed early signs of amyloid buildup in the brain, a hallmark of Alzheimer's. Those with both elevated pTau-217 and lower memory test scores were more than four times as likely to experience decline over the next five years based on both research-grade assessments and standard clinical tools like the Mini-Mental State Exam.

"This type of early detection could be a game-changer," says Dr. Stark, who leads the Biomarker Core for the UCI Alzheimer's Disease Research Center (ADRC), "if we can identify people at risk using quick, low-cost tools, we can intervene earlier and potentially change the trajectory of the disease." Because the digital memory test is self-guided and requires no trained administrator, it could be easily integrated into routine healthcare or even completed at home.

"Our goal is to make Alzheimer's detection accessible to everyone," says Vanderlip, "the earlier we can identify those at risk, the better chance we have to help."

The study was published in Alzheimer's and Dementia and supported by the National Institute on Aging. ■

UCI MIND TEAM AWARDED GRANT TO STUDY LATE

In August, a team of investigators led by S. Ahmad Sajjadi, MD, PhD, Associate Professor of Neurology was awarded a nearly $18M grant from the National Institute on Aging to establish “TRC-LATE” (Trial Ready Cohort for Limbic Predominant TDP-43 Encephalopathy).

LATE is a neurodegenerative underpinning of cognitive problems in older adults increasingly recognized to be common and to commonly co-occur with Alzheimer’s disease, particularly in people over age 80. The UCI team leading TRC-LATE includes Dr. Sajjadi, but also Drs. Ali Ezzati, Crystal Glover, and Joshua Grill (pictured in order).

The study will also be collaborative with ADRCs at other institutions, including UC San Diego, USC, Oregon Health and Sciences University, and University of Washington.

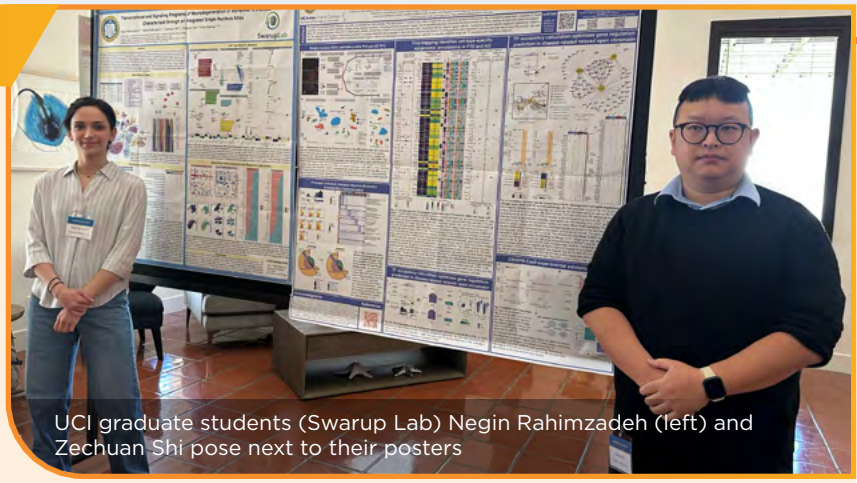
The main goals of the new funding are to;

1. Validate and improve diagnostic criteria for LATE
2. Discover new biomarkers of LATE to support diagnosis
3. Propel the field toward clinical trials of treatments for LATE, including trials that include individuals believed to have multiple contributors to cognitive impairment.

Congratulations Dr. Sajjadi and team!

EVENT HIGHLIGHT

2025 ADC COLLABORATIVE RESEARCH SYMPOSIUM



UCI graduate students (Swarup Lab) Negin Rahimzadeh (left) and Zechuan Shi pose next to their posters

On May 23, 2025, UCI MIND hosted the annual Southern California Alzheimer’s Disease Centers (ADC) Collaborative Research Symposium at the Beckman Center near the UC Irvine campus.This event brings together researchers and clinicians from five medical centers at UCI, UCLA, UC San Diego, USC, and Cedars-Sinai to share discoveries and strengthen collaboration across the Southern California region.

SHOWCASING INTERDISCIPLINARY RESEARCH

A record number of over 200 attendees packed into the auditorium to listen to two mini symposia, one with a basic science focus and the other with a more clinical focus. Every center offered a speaker for each discipline, and presentations covered a broad range of topics.

Casey Vanderlip, a UCI MD/PhD student from Dr. Craig Stark’s Lab, delivered a talk on the importance of cognitive assessment and targeting memory symptoms in Alzheimer’s research, and Dr. Crystal Glover, Associate Professor of Neurology and Outreach Recruitment and Engagement Leader for the UCI ADRC spoke about the importance of inclusive study design in aging research.

SPOTLIGHT ON POSTERS AND TRAINEE ENGAGEMENT

Throughout the day, poster sessions provided opportunities for trainees and early-career scientists to share their latest work and engage with experts in the field. The sessions fostered lively discussion and highlighted the depth and diversity of research taking place across Southern California.

Following the scientific program, attendees enjoyed a networking dinner that allowed for new collaborations to take shape.

The 2025 symposium exemplified the power of collective effort in advancing Alzheimer’s disease research and the importance of regional partnerships in tackling this complex and urgent public health challenge.

TRAINING THE NEXT GENERATION

The 2025 Beall Scholar Class flanked by REMIND Co-chairs and leadership.

BEALL SCHOLAR PROGRAM RETURNS FOR ITS 5TH YEAR

–Valerie Tung

From July 14th to the 18th, UCI MIND welcomed a new cohort of bright, motivated, rising Orange County 12th grade students for the 5th annual Beall Scholar Program.

This week-long immersive experience is designed to spark interest in neuroscience, aging, and healthcare careers. Led by the trainee outreach group, Research and Education in Memory Impairments and Neurological Disorders (REMIND), and hosted on the UC Irvine campus, this year's program brought together 15 high schoolers from across Orange County for a deep dive into the world of brain research and clinical care.

Each day of the program was themed around a specific neurological condition, including frontotemporal dementia, Parkinson's disease, and Alzheimer's disease. Through expert-led talks, lab tours, and hands-on activities, students were introduced to cutting-edge science and real-world clinical challenges. Faculty speakers included Drs. Joshua Grill, Ahmad Sajjadi, Crystal Glover, David Sultzer, Elizabeth Head and Niki Maki. Several other speakers, many early career scientists or graduate students, shared their expertise on basic science, clinical presentations, and translational research.

Highlights from this year's curriculum included interactive lab experiences in the Green and Lane labs and a behind-the-scenes tour of the FIBRE neuroimaging facility. Students also observed mock clinical case conferences giving a firsthand look at how neurologists and researchers collaborate to understand complex brain disorders. Panels on college admissions and career pathways featured undergraduates, medical students, and healthcare professionals who shared their journeys into STEM and medicine. Students also heard from caregivers and patient advocates who shared the human side of neurodegenerative diseases and the importance of empathy in research.

Beyond academics, the program fosters mentorship and community. Each scholar was paired with a mentor who will offer guidance, encouragement, and a window into the realities of careers in science and healthcare for the remainder of the academic school year.

Generously funded by Don and Joan Beall, the program provides all course materials, meals, transportation, and a $500 scholarship to each participant, ensuring equitable access to this unique educational opportunity.

Alina Tu, a graduate student and REMIND Co-Chair, demonstrates how the MRI scanner works.

Dr. Melanie Tallakson, a nurse practitioner, speaks with a Beall Scholar.

Beall Scholars examine neuroanatomical specimens.

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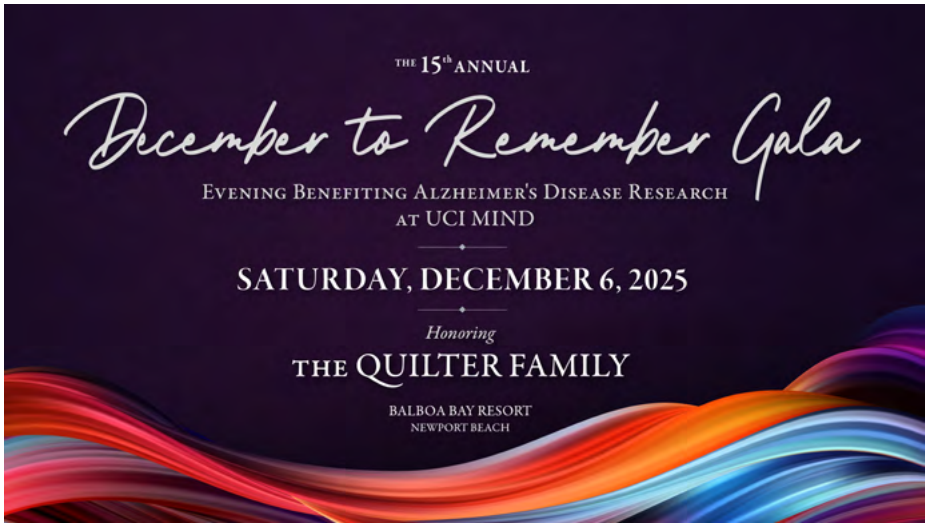

UCI MINDcast

Explore our video and podcast library: A resource for people interested in learning more about Alzheimer's disease research at UCI MIND (mind.uci.edu/mindcast/)