A LEGACY OF SUPPORT
THE DR. ANDREW G. ISRAEL MEMORIAL LECTURES
In May we held the inaugural Dr. Andrew G. Israel Memorial Lecture to honor and remember our beloved friend and colleague Dr. Israel. We welcomed Dr. Israel’s colleagues, friends and family to an informative discussion on posterior cortical atrophy led by guest speaker Sebastian Crutch, PhD, from the Dementia Research Centre at the University College London Institute of Neurology. This event provided a window into the experience of a person with dementia-related visual impairment and their care partners.

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UC San Diego Health Sciences Advancement
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Kim Wenrick | (858) 735-5137 | kwenrick@ucsd.edu

THANK YOU
Thanks to the vision and generosity of Darlene and the late Don Shiley, the Shiley-Marcos Alzheimer’s Disease Research Center has led the way in scientific learning, exploration and discovery that can transform lives. Philanthropic support is critical to achieving our mission, and gifts of all sizes play an important role in sustaining our momentum.

MESSAGE FROM THE DIRECTOR
It is wonderful to get this chance to send a heartfelt thanks to you, our steadfast partners who have contributed so generously to our groundbreaking programs at the Shiley-Marcos Alzheimer’s Disease Research Center. As another year passes, we are truly eager to see how we have pulled together to navigate the engine of the center’s in-person programs and to (we hope the energy of this flourishing and one-of-a-kind partnership between scientists, clinicians, staff, participants, caretakers, families and donors. The ecosystem was challenged during the pandemic, but we emerged stronger than ever.

This robust partnership and your support are key to advancing the science that will bring us the surest chance of scaring off Alzheimer’s and related neurodegenerative disorders seen in aging. We are delighted to highlight some of our best successes so far in the past year.

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It is my privilege to ensure that your support is put to optimal use in this fight. I hope this report gives you a sense of our tremendous passion in putting these new funds to their best use in bringing us a cure. I thank you sincerely, on behalf of the Center and its teams, for your generous contributions and ongoing partnership with us.

James Brewer, MD, PhD
Director, Shiley-Marcos Alzheimer’s Disease Research Center
Chair, Department of Neurosciences

THE IMPACT OF YOUR GIVING | 2022

THE EPSTEIN FAMILY ALZHEIMER’S RESEARCH COLLABORATION
An extraordinary commitment to ending Alzheimer’s disease.

With a transformational gift, the Epstein Family Foundation has even further propelled our decades-long hunt for a cure for Alzheimer’s disease. In 2022 they launched the Epstein Family Alzheimer’s Research Collaboration, a powerhouse that unites UC San Diego Alzheimer’s experts with their esteemed peers at USC. Beyond their initial $50 million investment, the Epsteins have challenged USC and UC San Diego to raise $55 million each to support Alzheimer’s research.

The pull between the widespread impact of Alzheimer’s disease and the lack of solutions inspired the Epsteins to establish this collaboration to speed the way toward meaningful therapies. To extend the impact of this extraordinary infusion of funding, the Shiley-Marcos Alzheimer’s Disease Research Center (SMADRC) continues to partner with our broader programs in Alzheimer’s disease within and beyond UC San Diego. Specifically, the SMADRC supports the achievement of two broader programs in Alzheimer’s disease within and beyond UC San Diego. Specifically, the SMADRC supports the achievement of two

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UC San Diego
Health Sciences

SHELIE-MARCOS ALZHEIMER’S DISEASE RESEARCH CENTER
The Impact of Your Giving 2022

At the University of California San Diego, visionary donors help us emulate a diverse community of learners, those who imagine unimagined answers that can transform humanity for the better. Together, we foster bold thinkers, researchers, healers, entrepreneurs and creators. Because here, breaking new grounds is the norm — and people are the point.

- Daniel Epstein
EMERGING SCHOLARS
THE FUTURE OF ALZHEIMER’S RESEARCH
Alejandra Morlett Paredes, PhD, a native of Tijuana, Baja California, a postdoctoral fellow in the Stude of Cognitive Aging (SDLA-INC) lab. Her work focuses on understanding the attitudes of older Latinos toward participating in aging research, specifically how those that require invasive procedures such as lumbar puncture, as well as brain donation for research. Dr. Morlett received her PhD in health psychology from Virginia Commonwealth University and completed a two-year research fellowship in geriatric mental health at UC San Diego. She has involved in various efforts to develop normative data for neuropsychological tests in Spanish-speaking adults living in the U.S. and Latin America.

The study’s title was inspired by the term “milagro,” a traditional crop-growing system in Mexico, reflecting the SMADRC’s role as a place for gathering data to inform research.

Gene Therapy: A Potential Cure in One Shot

The Roy Lab is targeting the APP gene, which has an established role in Alzheimer’s disease. Their approach essentially cuts out a small segment at the extreme C-terminus of the APP protein, which is known to trigger the pathological amyloidogenic pathway that gives rise to beta-amyloid plaques and neurodegeneration. Instead of producing toxic fragments, the gene-edited APP – lacking the extreme C-terminus — is redirected in a non-amyloidogenic pathway, which generates neuroprotective and neuroregenerative fragments. Thus overall, their approach alters the amyloid pathway from a pathologic state to a physiologically appropriate state that provides a lasting therapeutic effect. Using a similar viral delivery approach, the Roy Lab has already tested their strategy in animal models of Alzheimer’s disease. The next step is to perform a battery of FDA-relevant tests to determine the optimal dose gene therapy to treat Alzheimer’s disease. The alteration of key risk markers of Alzheimer’s disease, such as brain amyloid plaques and tau tangles, could have a transformative impact on a broad range of diseases for which there are currently no cures.

Women: Inflammation and Tau Study

Women account for two-thirds of all cases of Alzheimer’s disease, and research shows that women are more likely to be diagnosed later and decline more quickly than men. Why these differences exist is unknown, but Erin Sundermann, PhD, and Sarah Banks, PhD, think inflammation may be key, and that it may be driving an important pathological process in Alzheimer’s disease that involves the aggregation of tangles in the brain composed of abnormal tau protein. The team developed a study, dubbed the Women: Inflammation and Tau Study, or WITS, which was initially funded by the California Department of Public Health along with the Alzheimer’s Association. They collect participant data via PET scans, lumbar punctures, blood samples, and memory testing, home sleep studies and wearable activity trackers.

From all this information, Sundermann and Banks hope to find potential factors that can be targeted to slow progression of Alzheimer’s in women’s early stages. Initial results were shared at the Alzheimer’s Association International Conference this summer. Along with graduate student Kristy Liu, they found that a large majority of women in the study had some level of sleep apnea, and its severity correlated with tau in their brains. As sleep apnea is a treatable condition, recognizing and treating it could slow the progression of Alzheimer’s disease. Another analysis, led by project coordinator Alyx Shepherd, pointed to the importance of studying memory for shapes versus words. Memory for shapes was sensitive to early tau tangles in WITS, but memory for words was not, a finding that could help refine how we diagnose and track memory decline in women, which is likely different from men. We expect more fascinating findings as the number of WITS participants increases. Learn more at www.witsucsd.org.

PARTNERING WITH OUR COMMUNITY
THE PROMOTORA INITIATIVE

Latino communities are grossly underrepresented in Alzheimer’s disease research and privacy requirements, the fact that they are disproportionately affected by Alzheimer’s disease, dementia, community-based research procedures, and this lack of engagement with research facilities. Our research initiatives are focused on addressing these critical barriers in ADRD treatment for Latinos.

Participating in aging research can facilitate targeted, culturally relevant approaches for increasing autopsy rates and enrollment and participating in studies. The Roy Lab has been engaged with Latino communities led by Zulma Dávila PhD, a bilingual and bicultural neuropsychologist and clinical scientist whose research focuses on identifying clinical criteria for dementia diagnosis among diverse populations and improving our understanding of early risk factors of Alzheimer’s disease and related disorders in Hispanic older adults. Dr. Dávila is responsible for designing and implementing the SMADRC’s partnership, a group of eight engaged partners who will work closely with the SMADRC in developing culturally accurate information and direct referrals for research endeavors. We aim to support their efforts and hard work in a sustainable way to retain their commitment and engagement.

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