

# NEUROSCIENCES CONNECT:

## HUMAN RESEARCH

## NEWSLETTER

SUMMER 2025  
Volume 2, Issue 2



**Department of Neurosciences**  
Published by the Office of the  
Vice Chair of Human Clinical  
Research

**Vice Chair of Human Clinical  
Research**  
Dr. Jennifer Graves

**Department Chair**  
Dr. James Brewer

Dear Colleagues,

As we welcome the vibrant season of summer, we are reminded of the words of Santiago Ramón y Cajal, often regarded as the father of modern neurosciences: *“The brain is a world consisting of a number of unexplored continents and great stretches of unknown territory”*. His visionary sentiment captures the essence of what continues to drive our collective mission, pushing the boundaries of discovery in the vast and complex realm of the human brain.

This summer issue reflects that spirit of exploration. Across our department, faculty and researchers continue to chart new paths, from cutting-edge clinical trials to pioneering use of wearable technologies and the development of novel, non-pharmaceutical interventions. A unifying thread throughout this edition is our deepening commitment to translating research that is inclusive and equitable. From research into sex and gender differences and pediatric neurology disorders, to studies addressing health disparities and leveraging innovative digital tools, our teams are expanding boundaries and these efforts reflect our commitment to research that is both scientifically rigorous and socially responsive.

The season also brings exciting opportunities to strengthen our community through events such as the joint 2<sup>nd</sup> Neurosciences Human Research Day and Endowed ALS Lecture by Dr. John Ravits at Neurology Grand Rounds. As always, we remain committed to cultivating a collaborative environment where innovation flourishes and every contribution is valued.

Whether you are analyzing data, coordinating studies, mentoring future scientists, or engaging participants and families, your work forms the neural network that powers our progress.

Thank you for being an essential part of this dynamic research community!

With gratitude,

Jennifer Graves, MD, PhD, MAS  
Vice Chair of Human Clinical Research

## In This Issue

Message from the Vice Chair

In the News - Advocacy

Protecting the Pipeline:  
Pivot Grant Program

Featured Events

Notable Publications

UC San Diego Today

Featured Clinical Trial

Research in Action: Events

Updates from OIA & ACTRI

Upcoming Conferences

Research Administrative Contacts

*Submit content to*

Ileana Rubio  
[irubio@health.ucsd.edu](mailto:irubio@health.ucsd.edu)



## Advocacy in Action: Dr. James Brewer Represented UC San Diego Neurosciences in Washington, D.C.



Ahead of President Trump's joint address to Congress on March 4, Rep. Scott Peters (left) and Dr. Jim Brewer, chair of the Department of Neurosciences (center) attended a reception hosted by House Minority Leader Hakeem Jeffries (right). (Photo courtesy of the Office of Rep. Scott Peters)

In March, Dr. Brewer, Chair of the Department and Director of the Shiley-Marcos Alzheimer's Disease Research Center, traveled to Washington, D.C to attend the President's joint address to Congress. While there, he met with lawmakers to advocate for continued federal investment in biomedical research.

During his visit, Dr. Brewer made clear that the proposed federal cuts to NIH indirect costs threaten not only current researchers, but the very infrastructure that enables discovery. His message was one of urgency and vision, that sustained federal investment is essential to protect decades of progress and ensure a future of scientific breakthroughs.

Dr. Brewer's visit serves as a reminder that research institutions do not exist in isolation, they are part of a larger ecosystem shaped by public policy, funding decisions and community trust.

## A Systemwide Commitment to Our Mission: A Message from UC President, Dr. Michael V. Drake



Dr. Brewer's advocacy in Washington is part of a larger, collective effort across the University to safeguard research, support our people, and affirm the values that define our institution. In a recent message to the UC Community, President Michel V. Drake echoed and reinforced this commitment.

*"The University of California leads the way in life-saving medical research, cutting-edge discoveries, and public service that extends far beyond our campuses. In turbulent times, we remain grounded in our values and fully committed to supporting our students, faculty and staff as they pursue the work that defines us."*

President Drake's message is both timely and grounding. In the face of national uncertainty and shifting priorities, it affirms our shared dedication to academic excellence, public service and scientific integrity. His words remind us that our strength as a university lies not only on our science, but also in our shared values: inclusion, integrity, collaboration, and the pursuit of truth.

## **New Pivot Grant Program to Sustain UC San Diego's Research Talent**

### **Prebys Foundation \$1 Million Donation to UCSD in Emergency Support for Biomedical Research**



UC San Diego School of Medicine is proud to announce the launch of Protecting the Pipeline: Sustaining Scientific Talent and Innovation in San Diego, a new pivot grant program made possible by a generous \$1 million donation from the Prebys Foundation. UC San Diego was one of seven regional research institutions awarded funding to protect San Diego's vital biomedical research workforce. Click here to download the press release: [Press-Release\\_Research-Funding\\_RapidResponse-FINAL-05-28-2025.pdf](#)

#### **Program Purpose:**

The grant aims to retain early and mid-career faculty affected by federal funding disruptions during the FY2024-25 budget cycle, with a focus on health-related research. The School of Medicine is administering the program, and is open to all eligible UC San Diego Faculty.

Eligible funding disruption scenarios include:

- Full or partial grant terminations and stop work orders
- Funding freezes or delayed Notices of Award (NOAs)
- Withdrawn grant applications
- Reduced or delayed federal funding

#### **Use of Funds:**

Grants may support salary continuity for faculty, staff, postdocs and students, as well as essential lab operations and research materials.

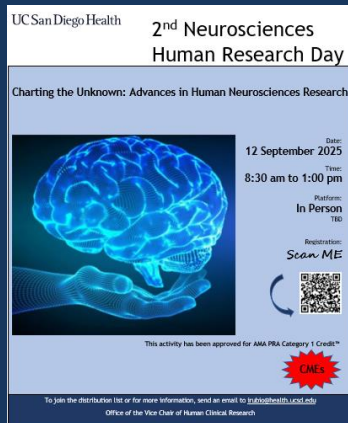
#### **Key Eligibility Criteria:**

- Must hold an active UC San Diego faculty appointment during the award period
- Must demonstrate direct impact from federal funding changes
- Must be conducting health-related research

The standard award amount is \$50,000, but applicants may request up to \$100,000 with prior approval from the Vice Dean of Research. Higher requests are intended for cases such as providing direct support to postdoctoral scholars affected by federal funding disruptions.

The application portal will open the week of June 22, 2025, with full details available on the School of Medicine website - [Pivot Grant Program](#).

## 2<sup>nd</sup> ANNUAL NEUROSCIENCES HUMAN RESEARCH DAY



**SAVE the DATE: 2<sup>ND</sup> Annual Neurosciences Human Research Day**

**September 12, 2025 | Garren Auditorium (SOM)**

Mark your calendars! We are excited to announce the 2<sup>nd</sup> Annual Neurosciences Human Research Day, taking place on Friday, September 12, 2025 from 8:30 a.m. to 1:00 p.m.

Following the success of last year's inaugural event, this year gathering will once again bring together investigators, clinicians, research staff, and trainees from across the neurosciences community to share cutting-edge research, foster collaboration and celebrate the spirit of scientific discovery.

Stay tuned for more details and registration information in the coming weeks!

## Feature Events

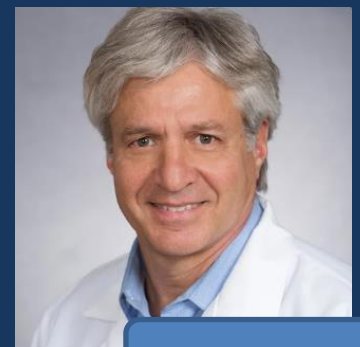
### The AI Tarkington Endowed Lecture Series

*Cellular Vulnerability and Disease Spread in Amyotrophic Lateral Sclerosis  
Is it Time to Re-Think Upper and Lower Motor Neurons?*

We are pleased to announce the launch of the AI Tarkington Endowed Lectureship in ALS and Neurogenetics, established through the generosity of the Tarkington family in memory of AI Tarkington. This annual lectureship will bring featured investigators, from both within UC San Diego and across the broader scientific community, who will share their pioneering research on amyotrophic lateral sclerosis (ALS), neurogenetic, neuromuscular, and neurodegenerative diseases.

The inaugural lecture will take place on September 12, 2025 at Neurology Grand Rounds, in conjunction with the 2<sup>nd</sup> Annual Neurosciences Human Research Day. Dr. John Ravits, who leads the translational research on ALS at UC San Diego, will deliver the first talk entitled “Cellular vulnerability and disease spread in amyotrophic lateral sclerosis — Is it time to re-think upper and lower motor neurons?”.

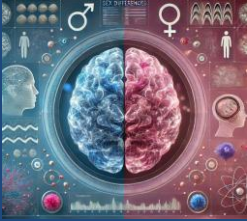
The AI Tarkington Lectureship aims to foster continued dialogue and collaboration across the neurosciences research community, while honoring the legacy of individuals and families impacted by these devastating diseases.



Dr. John Ravits

# Featured Events

## Sex Differences in Neurological Disease: Insights from May's Digital Tools Workshop Guiding our Next Seminar



We are excited to share that the Digital Tools and Wearable Technology in Neurosciences Workshop, held in May, 2025, had a strong turnout and sparked meaningful, cross disciplinary conversations. The workshop brought together faculty and researchers with shared interest in how emerging technologies can advance clinical and translational research.

In addition to the enthusiasm and collaboration it inspired, the workshop highlighted valuable areas for growth. One key takeaway was the need to include dedicated time and structured feedback from senior faculty, elements which we plan to integrate into future events to further strengthen mentorship and collaborative opportunities.

These takeaways are actively shaping the planning of our upcoming conference on Sex Differences in Neurological Disease, which is planned for October 2025. To generate interest, and encourage participation we plan to further highlight and promote the seminar at the 2<sup>nd</sup> Neurosciences Human Research Day in September.

If you are interested in participating or have suggestions for potential agenda items or speakers, please email Ileana Rubio at [irubio@health.ucsd.edu](mailto:irubio@health.ucsd.edu)

## Glia and Neuroinflammation Seminar Series

**Alex Silva, BMS PhD Candidate**  
Mendiola Lab

“Epigenetic profiling and therapeutic targeting of oxidative stress in neuroinflammation”  
June 26, 2025

**Alice Yu, Undergraduate Student**  
Yang and Graves Lab  
“Cognitive Outcomes in Pediatric anti-NMDAR encephalitis”  
July 24, 2025

**Time:** 4-5 PM  
**Place:** Liebow Auditorium BSB

To be added to the distribution list, please contact: Kaja Arnold at [kbajc@health.ucsd.edu](mailto:kbajc@health.ucsd.edu)

A poster for the 'GLIA AND NEUROINFLAMMATION SEMINAR SERIES'. The poster has a blue and white color scheme with a circular graphic on the left. It includes the following text: 'LIVE SEMINAR', 'GLIA AND NEUROINFLAMMATION SEMINAR SERIES', 'Meeting: January 23th, 2025', 'When: Fourth Thursday's Monthly 4-5PM', 'Where: Liebow Auditorium, Biomedical Sciences Building (2nd floor), UCSD School of Medicine, West Campus'. It also features two circular portraits of speakers: Richard Daneman, PhD (Associate Professor, Departments of Pharmacology &amp; Neurosciences, UCSD) and Jennifer Graves, MD, PhD, MAS (Neurologist, Associate Professor of Neurosciences, UCSD). A small text box on the right says: 'New monthly seminar series on glia and neuroinflammation. Meetings will feature trainee presentations from basic science labs and clinical groups, along with robust discussions and occasional guest speakers!'. At the bottom, it says 'Presentation Schedule: https://rb.gy/buptfy'.

# Research Highlights: Publications

2025 Publications from PubMed Search Featuring Faculty and Staff from our Department

## Laser Interstitial Thermal Therapy for the Treatment of Mesial Temporal Epilepsy in Children

<https://journals.sagepub.com/doi/10.1177/08830738241312262>

Aditi M. Trivedi, MD, Maria A. Montenegro, MD, PhD, David Gonda, MD, Olivia Ki-Mc-Manus, MD, Neggy Rismandi, MD, PhD, Aliya Frederick, MD, PhD, Natalie Guido-Estrada, MD, Anuja Jindal, MD, Shifteh Sattar, MD, MBA

This recent study from a level 4 epilepsy center shows that laser interstitial thermal therapy (LITT) is a safe and effective surgical treatment for children and adolescents with drug-resistant mesial temporal lobe epilepsy (MTLE). The study evaluated outcomes in 19 patients under the age of 20, with results demonstrating that 73% achieved seizure freedom one-year post surgery.

Seizure control was significantly better in patients whose MRIs revealed hippocampal sclerosis (lesional MTLE), with 90% becoming seizure free, compared to a 55.5% rate in those with no visible brain abnormalities (nonlesional MTLE). Younger age at seizure onset was also linked to better surgical outcomes.

Unlike traditional open brain surgery, LITT uses minimally invasive techniques guided by MRI to target seizure-causing areas. This approach was well-tolerated, with no reported complications and shorter recovery times. The study highlights the growing potential of LITT as a preferred treatment strategy for pediatric MTLE, especially for patients with identifiable lesions.

The findings underscore the importance of early surgical intervention and offer new hope for improving quality of life in children facing refractory epilepsy.

## Unraveling Progressive Verbal Memory Deficits in Huntington's Disease: Insights from the LASSI-L

<https://pubmed.ncbi.nlm.nih.gov/40046671/>

Luis A Sierra<sup>1</sup>, Japleen Kaur<sup>2</sup>, Samuel A Frank<sup>1,3</sup>, Mark A Halko<sup>3,4</sup>, Rosie E Curiel Cid<sup>5</sup>, David A Loewenstein<sup>5</sup>, Jody Corey-Bloom<sup>2</sup>, Simon Laganier<sup>1,3</sup>

This multicenter study explored how verbal memory deficits progress in individuals with Huntington's disease (HD), using the Loewenstein-Acevedo Scales for Semantic Interference and Learning (LASSI-L). The study included 151 (89 HD and 62 HC) participants across three clinical sites and assessed their cognitive performance across different disease states.

The results of the study showed sequential group differences in susceptibility to interference effects were observed on the LASSI-L. Proactive Semantic Interference (PSI) deficits appeared more than 10 years before manifest HD, Failure to Recover from PSI (frPSI) emerged less than 10 years before manifest HD, and in the Manifest HD stage, participants showed additional deficits in Retroactive Semantic Interference (RSI). Based on health control performance cutoff scores, 98% of the HD cohort showed either normal performance or significant impairments, mainly in PSI, with some also showing frPSI and/or RSI deficits. Additionally, 88% of HD participants followed a predictable sequence decline: PSI → frPSI → RSI.

These findings suggest that the LASSI-L is a powerful tool for identifying early and progressive cognitive changes in HD and could help refine disease staging and early intervention strategies.

# Research Highlights: Publications

2025 Publications from PubMed Search Featuring Faculty and Staff from our Department

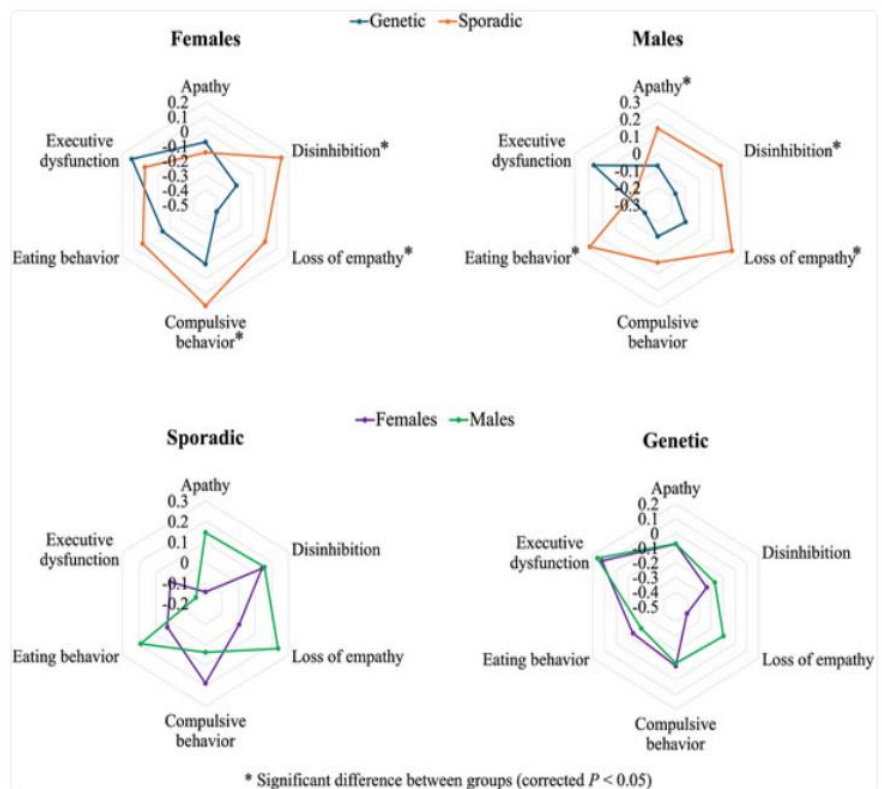
## Sex Differences in Clinical Phenotypes of Behavioral Variant Frontotemporal Dementia

<https://pmc.ncbi.nlm.nih.gov/articles/PMC12022892/>

Xulin Liu<sup>1,2</sup>, Sterre C M de Boer<sup>3,4,5</sup>, Kasey Cortez<sup>1</sup>, Jackie M Poos<sup>6</sup>, Ignacio Illán-Gala<sup>7</sup>, Hilary Heuer<sup>8</sup>, Leah K Forsberg<sup>9</sup>, Kaitlin Casaletto<sup>8</sup>, Molly Memel<sup>8</sup>, Brian S Appleby<sup>10</sup>, Sami Barmada<sup>11</sup>, Andrea Bozoki<sup>12</sup>, David Clark<sup>13</sup>, Yann Cobigo<sup>8</sup>, Ryan Darby<sup>14</sup>, Bradford C Dickerson<sup>15</sup>, Kimiko Domoto-Reilly<sup>16</sup>, Douglas R Galasko<sup>17</sup>, Daniel H Geschwind<sup>18</sup>, Nupur Ghoshal<sup>19</sup>, Neill R Graff-Radford<sup>20</sup>, Ian M Grant<sup>21</sup>, Ging-Yuek Robin Hsiung<sup>22</sup>, Lawrence S Honig<sup>23</sup>, Edward D Huey<sup>24</sup>, David Irwin<sup>25</sup>, Kejal Kantarci<sup>9</sup>, Gabriel C Léger<sup>17</sup>, Irene Litvan<sup>17</sup>, Ian R Mackenzie<sup>26</sup>, Joseph C Masdeu<sup>27</sup>, Mario F Mendez<sup>18</sup>, Chiadi U Onyike<sup>28</sup>, Belen Pascual<sup>27</sup>, Peter Pressman<sup>29</sup>, Ece Bayram<sup>29</sup>, Eliana Marisa Ramos<sup>18</sup>, Erik D Roberson<sup>30</sup>, Emily Rogalski<sup>31</sup>, Arabella Bouzigues<sup>32</sup>, Lucy L Russell<sup>32</sup>, Phoebe H Foster<sup>32</sup>, Eve Ferry-Bolder<sup>32</sup>, Mario Masellis<sup>33</sup>, John van Swieten<sup>6</sup>, Lize Jiskoot<sup>6</sup>, Harro Seelaar<sup>6</sup>, Raquel Sanchez-Valle<sup>34</sup>, Robert Laforce<sup>35</sup>, Caroline Graff<sup>36,37</sup>, Daniela Galimberti<sup>38,39</sup>, Rik Vandenberghe<sup>40,41</sup>, Alexandre de Mendonça<sup>42</sup>, Pietro Tiraboschi<sup>43</sup>, Isabel Santana<sup>44,45</sup>, Alexander Gerhard<sup>46,47,48</sup>, Johannes Levin<sup>49,50,51</sup>, Sandro Sorbi<sup>52,53</sup>, Markus Otto<sup>54</sup>, Florence Pasquier<sup>55,56,57</sup>, Simon Ducharme<sup>58,59</sup>, Chris R Butler<sup>60,61</sup>, Isabelle Le Ber<sup>62,63,64</sup>, Elizabeth Finger<sup>65</sup>, James B Rowe<sup>66</sup>, Matthias Synofzik<sup>67,68</sup>, Fermin Moreno<sup>69,70</sup>, Barbara Borroni<sup>71</sup>, Brad F Boeve<sup>9</sup>, Adam L Boxer<sup>8</sup>, Howie J Rosen<sup>8</sup>, Yolande A L Pijnenburg<sup>3</sup>, Jonathan D Rohrer<sup>32</sup>, Maria Carmela Tartaglia<sup>1,2</sup>, ALLFTD Consortium and the GENFI Consortium

This multinational study has uncovered key sex-linked differences in the presentation of behavioral variant frontotemporal dementia (bvFTD), helping to explain why fewer women are diagnosed with sporadic bvFTD despite equal rates in genetic cases.

Figure 1



Researchers analyzed data from over 700 patients and found that females with sporadic bvFTD displayed distinct symptoms, including greater compulsive behavior and language impairments, compared to those with genetic bvFTD. These women also had less brain atrophy, especially in the parietal lobe, suggesting their disease may manifest differently and be more easily misdiagnosed as psychiatric in origin.

By contrast, genetic bvFTD showed an equal sex distribution, likely due to family history prompting earlier and more accurate diagnosis. The study highlights how current diagnostic criteria may better align with male phenotypes, contributing to underdiagnosis in women with sporadic bvFTD.

The findings call for more sex-sensitive diagnostic approaches and greater awareness of typical presentations in women to avoid missed or delayed diagnosis.

Differences in symptoms of frontotemporal dementia diagnostic criteria between genetic and sporadic bvFTD, stratified by sex; and differences in symptoms of frontotemporal dementia diagnostic criteria between females and males, stratified by bvFTD type. Values are z-scores and higher values represent more severe symptoms. bvFTD, behavioral variant frontotemporal dementia.

# Research Highlights: Publications

2024/2025 Publications from PubMed Search Featuring Faculty and Staff from our Department

## Non-Invasive Vestibular Nerve Stimulation (VeNS) Reduces Visceral Adipose Tissue: Results of a Randomized Controlled Trial

[Non-invasive vestibular nerve stimulation \(VeNS\) reduces visceral adipose tissue: results of a randomized controlled trial - PubMed](#)

Erik Viirre<sup>1</sup>, Julie Sittlington<sup>2</sup>, David Wing<sup>3</sup>, Ruth Price<sup>2</sup>, Caomhan Logue<sup>2</sup>, Daniel Moreno<sup>3</sup>, Jeff Ledford-Mills<sup>4</sup>, Cynthia Knott<sup>4</sup>, Carel W le Roux<sup>5</sup>, David Grieve<sup>6</sup>, Sinead Watson<sup>7</sup>, Jason McKeown<sup>6,7,8,9</sup>, Paul D McGeoch<sup>7,9</sup>

This first-in-human clinical trial researched whether a non-invasive electrical vestibular nerve stimulation (VeNS), paired with reduced-calorie diet, could help reduce body fat in overweight and obese adults. The study showed that although weight loss itself was not significantly different between VeNS and placebo groups, visceral adipose tissue (VAT), which is the metabolically dangerous fat stored around internal organs, was reduced by 12.6% compared to 4.7 % in the sham group ( $p = 0.03$ ). Additionally, VAT loss in the VeNS group was comparable to reductions seen with GLP-1 agonist, such as semaglutide.

This is an important finding, as VAT is more strongly linked than general body fat to conditions like cardiovascular disease, diabetes, liver disease and other metabolic disorders. VeNS appears to selectively reduce this type of fat by activating brainstem and hypothalamic pathways that regulate energy balance.

These findings suggest VeNS may offer a promising new non-pharmacological strategy to target fat linked to disease risk without significant muscle loss, especially when used alongside other therapies. Further studies will be needed to confirm long-term effectiveness and explore combination therapies (e.g. with GLP-1 drugs).

## Double-Blind, Randomized, Placebo-Controlled, Crossover Study of Oral Cannabidiol and Tetrahydrocannabinol for Essential Tremor

<https://pmc.ncbi.nlm.nih.gov/articles/PMC12005140/>

Katherine Longardner<sup>1</sup>, Qian Shen<sup>2</sup>, Francisco X Castellanos<sup>3</sup>, Bin Tang<sup>4</sup>, Rhea Gandhi<sup>1</sup>, Brenton A Wright<sup>1</sup>, Jeremiah D Momper<sup>5</sup>, Fatta B Nahab<sup>1</sup>

This pilot trial tested whether a pharmaceutical-grade oral THC/CBD formulation could provide relieve for individuals living with essential tremor (ET), a common movement disorder that significantly impacts quality of life. Despite widespread anecdotal reports of symptom relief with cannabis, the study found no evidence of efficacy.

The double-blind, placebo-controlled, crossover trial enrolled seven participants, all of whom had long-standing ET and were predominantly in their late 60s. Over the course of the trial, participants were given escalating doses of a pharmaceutical grade formulation (Tilray TN-CT120 LM), reaching up to 15 mg of THC and 300 mg of CBD per day. After a two-week treatment period, participants crossed over to receive either the active compound or placebo, depending on their initial assignment.

Digital assessment of tremor amplitude along with clinical evaluations, revealed no significant difference between the treatment and placebo arms. Most participants tolerated the drug well, there was one serious adverse event involving a suspected convulsive syncope episode.

Ultimately, the study did not support the efficacy of oral THC/CBD for essential tremor, at least in the short term and at the doses studied. Although limited by its small sample size and homogenous demographics, this research contributes important data to the growing conversation around cannabinoid-based treatments. The investigators note that larger, long-term studies are still needed, and that regulatory and logistical barriers continue to complicate research in this area. Nevertheless, the study offers a rigorous foundation for future work and a reality check on the gap between public perception and clinical outcomes in cannabinoid therapies.

# UC San Diego Today 5/14/2025: In Case You Missed It!

## UC San Diego Researchers Finds No Sex Differences in Autistic Toddlers at Time of First Diagnosis: [Large-scale examination of early-age sex differences in neurotypical toddlers and those with autism spectrum disorder or other developmental conditions - PubMed](#)



A groundbreaking study from UC San Diego scientists, published in *Nature Human Behavior*, challenges the long-held belief that autism presents differently in males and females during early childhood. Although autism is diagnosed in males more than four times as often as females, the study found no significant clinical differences in core autistic traits between male and female toddlers at the time of diagnosis.

The study was led by Dr. Karen Pierce, professor of neurosciences and director of the UC San Diego Autism Center of Excellence. The research team assessed over 2,500 toddlers aged 12 to 48 months in 2022. The cohort included 1,500 children with autism, 600 typically developing children, and 475 with developmental delays. Assessments included language, motor and social skills, cognitive development, repetitive behaviors, and social attention eye-tracking technology. All assessments were conducted at a single clinical site by licensed psychologists.

The study findings include:

- No clinical differences between male and female toddlers with autism across nearly all 19 measures.
- The only minor difference observed was in parent-reported daily living skills, with females slightly outperforming males.
- No significant differences between sexes with autism subtypes or across developmental trajectories from 12 to 48 months.



An interesting finding was that while typically developing females outperformed their male peers in social, language, and adaptive skills, as expected and consistent with previous literature, these sex-based differences did not appear in the autistic cohort.

Dr. Pierce noted that smaller past studies may have overstated sex-based differences due to limited sample sizes or methodological flaws. The study's large scale and early-age focus provide a more accurate picture of autism's early presentation. She suggests that clinical focus should shift away from sex-based assumptions and toward scientifically defined autism subtypes for more effective early intervention. *"Helping children reach their full potential starts with early identification and targeted support,"* Dr. Pierce emphasized. *"If we can improve toddlers' language and communication early on, we significantly enhance their ability to thrive."*

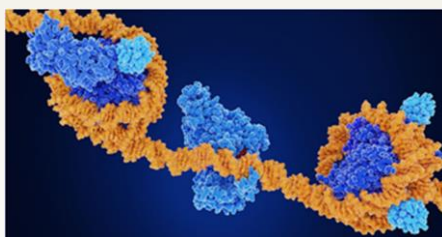
The study highlights the need for future large-scale, longitudinal research to determine whether sex-based differences in autism may emerge later in life due to environmental or biological factors. Click [HERE](#) for full PubMed publication. UC San Diego Today article: [No Sex Differences in Autistic Toddlers at Time of First Diagnosis, Study Finds.](#)

Additional co-authors: Sanaz Nazari 1, Sara Ramos Cabo 1, Srinivasa Nalabolu 1, Cynthia Carter Barnes 1, Charlene Andreason 1, Javad Zahiri 1, Ahtziry Esquivel 1, Steven J Arias 1, Andrea Grzybowski 1, Michael V Lombardo 2, Linda Lopez 1, Eric Courchesne # 3, Karen Pierce # 4

# Research Highlights: Publications

2024/2025 Publications from PubMed Search Featuring Faculty and Staff from our Department

## UC San Diego Researchers Find Evidence of Accelerated Aging in Children with Multiple Sclerosis: [Epigenetic Aging in Pediatric-Onset Multiple Sclerosis | Neurology](#)



“First-of-its kind study reveals signs of premature biological aging in teenagers with MS pointing to new treatment possibilities beyond immunosuppression”

Researchers from UC San Diego have discovered that children and adolescents diagnosed with multiple sclerosis (MS) show signs of accelerated biological aging. This finding may reshape our understanding of the disease’s progression. The study was recently published in *Neurology* and is the first to investigate early aging in pediatric MS offering important clues about long-term disease outcomes.

MS is a chronic autoimmune disease that targets the brain, spinal cord, and optic nerves. In this study, scientist used DNA methylation markers, which are chemical changes in the DNA that reflect biological aging, to analyze blood samples from 125 children with MS and 145 children without the disease. Their chronological ages were similar, however those with MS appeared biologically older, with the most affected individuals aging up to two years faster than their healthy peers.

Dr. Jennifer Graves, senior author and professor of neurosciences noted, *“This is a whole new concept in MS”. “We don’t usually think of aging as something affecting teenagers, but these children are accumulating cellular damage that may not become clinically apparent until years later.”*

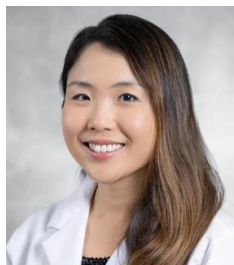
The team found difference in epigenetic age using specific “clocks” most responsive to inflammation and health-related stress. These findings build on previous evidence linking biological aging to worse outcomes in adults with MS and suggest that damage begins much earlier than previously believed, even before physical symptoms or disability appear.

Researchers hope future longitudinal studies will reveal how early biological aging influences long-term disability and disease progression. They also plan to investigate the impact of environmental factors, such as social stress, obesity, and economic disadvantage, which is particularly relevant given the higher prevalence of pediatric MS in lower-income populations. Go to [UC San Diego Researchers Find Evidence of Accelerated Aging in Children with Multiple Sclerosis](#) for original article. For full publication click. [HERE](#).

Additional co-authors: Christopher Goyne, Ashley E. Fair, Defne Yilmaz, Jonathan Race, Allison Schuette, Stacy J. Caillier, Gregory S. Aaen, Aaron W. Abrams, Leslie A. Benson, T. Charles Casper, Tanuja Chitnis, Mark P. Gorman, Timothy E. Lotze, Lauren B. Krupp, Soe S. Mar, Jayne M. Ness, Mary Rensel, Moses Rodriguez, John W. Rose, Teri L. Schreiner, Jan-Mendelt Tillema, Amy Tara Waldman, Yolanda S. Wheeler, Lisa F. Barcellos, Emmanuelle Waubant, the US Network of Pediatric MS Centers.

# Featured Study: MINERVA

Enrolling, referrals welcome!



Dr. Jennifer Yang: A cross-sectional study on the impact of health disparities on neuropsychological outcomes in anti-NMDAR encephalitis compared to pediatric MS

For more information, complete list of inclusion/exclusion criteria or to refer participants please contact: Dr. Jennifer Yang at [jhy045@health.ucsd.edu](mailto:jhy045@health.ucsd.edu)

**MINERVA:** Determining the impact of social determinants of health on neuropsychological outcomes in pediatric autoimmune encephalitis.



## Study Design:

Multi-center, case-control, cross-sectional study of neuropsychological performance and surveys/questionnaires capturing social functioning and multi-level domains of health disparity (English and Spanish versions available)

## Study Population:

Case- Pediatric onset anti-NMDAR encephalitis

Inflammatory control: pediatric onset multiple sclerosis (POMS)

## Inclusion Criteria

- Participants ages 5 to 21 years old who had disease onset between ages 5-18 years.
- Meeting criteria for anti-NMDARE (Cellucci 2020 or Graus2026) or MS (2017 or 2024 McDonald criteria).
- Must be >6 months from onset multiple sclerosis (POMS).

## Exclusion Criteria

- Individuals with chorea movement disorders in the context of a negative test for the HD gene mutation.
- For Community Controls: Individuals with a major central nervous system disorder, such as stroke, Parkinson's disease, multiple sclerosis, etc. Has 2 or more relatives with history of MSA.

# Research in Action: Department Events

## World Parkinson's Day Seminar: Celebrating Advancements and Supporting our Volunteers

On April 11, 2025, the Department of Neurosciences, Parkinson's Disease and Other Movement Disorders (POMDC) Center hosted a community seminar at the ACTRI Auditorium in honor of World Parkinson's Day. The event was well attended, drawing enthusiastic participation from patients, families, and members of UCSD Department of Neurosciences, including faculty and research staff. Attendees gathered for an engaging afternoon focused on the latest advancements in Parkinson's disease (PD) research.

The program opened with Michael Skipworth, CRC, who delivered an overview of ongoing research studies at the Center. He underscored the dual value of research participation, not only for advancing scientific discovery, but also as a means for participants to engage with expert support throughout the study period. Skipworth highlighted both observational and interventional trials, noting the essential role of control participants as critical comparison groups.

Next, Dr. Katherine Longardner, introduced her research focused on enhancing diagnosis and management of non-motor symptoms in Parkinson's, particularly orthostatic hypotension (OH). This condition, which is marked by rapid blood pressure drops upon standing, often goes undetected. Dr. Longardner is evaluating a non-invasive ultrasound sensor capable of continuous blood pressure monitoring via a skin patch, an innovation that could revolutionize early detection and long-term care for individuals with PD. Dr. Longardner also shared exciting developments from a Levodopa Biosensor Validation Study, which explores the use of a microneedle-based sensor to monitor levodopa levels through capillary blood and interstitial fluid. The goal of this sensor is to empower patients with at-home medication monitoring tools, allowing for more personalized and precise treatment.

The seminar concluded with a talk from Dr. David Coughlin, presenting on the growing role of biomarkers in refining diagnostic accuracy and precision therapy in Parkinson's disease. He noted that while clinical diagnosis can be up to 90% accurate under ideal conditions, such as sustained follow-up and response to levodopa, accuracy may drop to 50% for patients over 80 who are assessed only once, especially when atypical or "red flag" symptoms are present.

This event reaffirmed the department's commitment to community engagement, translational research and advancing clinical care through innovation.



Reproduced with the participants authorization

# Research in Action: Department Events

## Spotlight on Collaboration: Advancing Research on Pregnancy and MS



Building Collaborations to Accelerate  
Research on Pregnancy and Lactation in MS  
UC San Diego Park & Market  
April 5, 2025

This spring, UC San Diego hosted a timely and impactful event, “Building Collaborations to Accelerate Research on Pregnancy and Lactation in MS,” held at UC San Diego Park & Market. This event was organized in conjunction with the American Academy of Neurology (AAN). The evening brought together researchers, clinicians, and data experts to address critical gaps in understanding pregnancy-related considerations in multiple sclerosis.

The event, led by Drs. Christina Chambers and Jennifer Graves, featured engaging presentations and panel discussions on research methodologies, epidemiology and strategies for tracking MS therapy and symptom medication exposures during the peripartum period. Highlights included expert insights from Drs. Riley Bove, Vilija Jokubaitis, Kerstin Hellwig and Ruth Dobson, with discussions moderated by Drs. Dina Jacobs and Emily Schorr.

The event emphasized the importance of cross-disciplinary collaboration and data sharing to propel prepartum MS research forward. Attendees also had the opportunity to connect and network during the closing reception.



# UCSD Required Trainings - Faculty and Staff

## Required Research Training for Faculty and Staff

UC San Diego faculty and staff engaged in research are required to complete and maintain current certifications for human subjects research training in accordance with UC policy.

At a minimum, researchers must complete the following modules through the Collaborative Institution Training Initiative (CITI Program):

- **HIPAA for Research**  
Covers the privacy and security of protected health information (PHI) in the context of research
- **Biomedical Research (BMS) – Human Subjects Research**  
Required for anyone involved in the design, conduct, or oversight of biomedical studies involving human participants.

These trainings are not required by sponsors; however, the UC Office of Research Compliance and Privacy requires them and investigators will need to show proof of up-to-date training certificates during internal audits.

In addition to the above trainings, all personnel involved in research must show proof of current GCP training:

- Good Clinical Practice training (GCP) training can be taken through the CITI Program: [CITI Program - Safety Training](#).

# OIA and ACTRI Updates

## ACTRI Announces Clinical Services Rates to Increase Starting August 1, 2025

Beginning August 1, 2025, the ACTRI Center for Clinical Research will implement a 5% increase in clinic service recharge rates. The ACTRI states that this adjustment is necessary to address rising staff costs and inflation-related increases across the university. The new rates will apply to all currently active and future studies utilizing the ACTRI clinic services.

The rate increase does not apply to Imaging and Investigational Drug Services (IDS).

To support long-term financial sustainability and continued access to high-quality clinical research infrastructure, we strongly encourage all study teams to continue to collaborate closely with their budget analyst to optimize budgets, incorporating annual increases of 3%-5% to account for potential adjustments to clinic, imaging and ancillary services fees.

The updated clinic rates will be posted on the ACTRI website and are accessible [here](#) using your @health.ucsd.edu Active Directory credentials.

## sIRB Attestation Process Implemented in 2024 – What PIs Need to Know

The Office of IRB Administration (OIA) introduced a new sIRB attestation process, on July 1 2024, to clarify and reinforce the responsibilities of Principal Investigators (PIs) when an external IRB assumes oversight of a study conducted at UC San Diego or RCHSD. This process ensures that PIs are fully informed of their obligations, supporting the integrity and success of their research projects under external IRB oversight.

We are sharing this information because many PIs are receiving DocuSign emails related to this attestation but may not be aware of the new requirement or the reason behind the request to complete it.

This process is initiated by the Reliance Team and requires PIs to review reference materials and complete an attestation via DocuSign. Please note that this information will not appear in the Kuali Research Record as some may expect. The attestation serves as a formal acknowledgment of the PI's responsibilities.

Additionally, UCSD IRB is seeing increased requests to serve as the sIRB for multi-site studies, and a similar attestation process will apply in those cases. For more details on lead PI responsibilities and the new process, please visit the UCSD IRB reliance page or contact the Reliance Team at: [irbrely@ucsd.edu](mailto:irbrely@ucsd.edu).

# AI: HIPAA Compliant Tools

## How AI Tools Are Supporting Research and Clinical Practice?

As artificial intelligence continues to evolve, UC San Diego Health is embracing secure, HIPAA-compliant AI platforms to support administrative and clinical operations. Since the launch of Microsoft Copilot Chat and Doximity GPT, over 1,200 team members have already explored these tools.

Microsoft Copilot chat enables users to analyze datasets, summarize medical histories, and draft materials with attached research protocols, study designs, or reference policies. Researchers are using it to create site-specific process documents, all in a secure, web-based environment.

Doximity GPT, with its large text-processing capacity, is ideal for summarizing medical records, and drafting progress notes and has been a great tool for reducing documentation burden. You may access Doximity GPT at [gpt.health.ucsd.edu](https://gpt.health.ucsd.edu).

These tools are HIPAA compliant when accessed through the UC San Diego Health Credentials. They do not use patient or user-entered data for training, and protections are in place to ensure privacy. As always, you must enter only the minimum necessary information to complete your tasks.

What's Next?: Copilot Chat will soon include team-specific AI agents powered by internal document repositories.

Doximity GPT will add support for external file uploads and a curated prompt library for routine workflows.

For questions on these tools, please contact the AI Office during Office hours on Thursdays at noon or visit the Innovation Page on Pulse. [Artificial Intelligence | UCSD Center for Health Innovation](#).

**A Note of Caution on Responsible Use:** While these tools are HIPAA compliant and do not use your data for training purposes, it is essential to use discretion when entering sensitive information. Always use your @health.ucsd.edu credentials, verify you are securely logged in, and limit entries to only the minimum necessary information.

If you would not want something shared or stored indefinitely, it is best not to use these tools, even secure ones. Treat these tools as you would any digital communication platform, with professionalism, caution and a clear understanding of data privacy expectations.



# Upcoming Conferences:

Stay informed about neurology related conferences and other programs that may be of interest.



Autism National Conference  
June 25-28, 2025  
Chicago, Illinois  
[2025 National Conference Newsletter -](#)



Alzheimer's Association  
July 27-31, 2025  
Metro Toronto Convention Centre  
[aaic@alz.org](mailto:aaic@alz.org)



American Neurological Association  
September 13-16, 2025  
Baltimore Marriott Waterfront  
Jennifer Summers at [jsummers@myana.org](mailto:jsummers@myana.org)



International Congress of Parkinson's Disease and Movement Disorders  
October 5-9, 2025  
Hawaii Convention Center  
Honolulu, Hawaii  
[International Congress of Parkinson's Disease and Movement Disorders®](#)



Motor Neuron Disease Association 36<sup>th</sup> Symposium on ALS/MDN  
December 7, 2025  
San Diego, CA  
[Sign up for updates - International Symposium on ALS/MND](#)



2025 Association of Neuromuscular Clinicians  
December 7, 2025  
San Diego, CA  
[Sign up for updates - International Symposium on ALS/MND](#)

# Research Administrative Contacts:

## **Office of the Vice Chair of Human Clinical Research**

General Inquiries: Ileana Rubio - [irubio@health.ucsd.edu](mailto:irubio@health.ucsd.edu)

To request an appointment please email Ileana Rubio

## **UCSD Office of IRB Administration (OIA)**

General Inquiries: [IRB@ucsd.edu](mailto:IRB@ucsd.edu) | 858-246-4777

Reliance Inquiries: [IRBRely@ucsd.edu](mailto:IRBRely@ucsd.edu)

## **Office of IRB Administration**

Zoom Link: <https://ucsd.zoom.us/j/97262256893>

Date: July 22, 2025

Time: 10:00 a.m.

## **Office for Human Research Protections (HHS)**

OHRP offers comprehensive training on human research protections, which is based on the requirements of the revised Common Rule (or 2018 Requirements) [HHS Human Research Training](#). A printable completion certificate is available at the conclusion of each lesson.