



Current Clinical Research Studies

For more information, contact the BRaIN Lab at (530) 754-0653 or hs-brainlab@ucdavis.edu.

Study Title and Description	Age Group	Target Population
<p><u>BRaIN Lab Recruitment Registry¹: enrolling</u> The BRaIN Lab registry provides opportunity for anyone interested in participating in our research studies to self-enroll into our contact list. We contact people enrolled in the registry to provide information about our active studies that may be a good fit. The registry is a good starting point whether you are interested in participating in any of the studies listed below or wish to be kept informed about new studies as they become active.</p> <p>Duration: 8-10 minutes Location: online, link: js.gd/BRaINlabregistry</p>	18 and older	No restrictions—all individuals are welcome!
<p><u>Task-Failure Study²: enrolling</u> This study assesses manual dexterity and brain function during fatigue and recovery from fatiguing exercise. Participation involves: measurement of hand dexterity, grip strength, muscle activity, and completion of low-intensity grip exercise to fatigue.</p> <p>Duration: Single session, several hours. Location: BRaIN Lab, Davis Campus</p>	18 and older	Healthy adults or Stroke Survivors, ≥6 months following cortical or subcortical stroke
<p><u>Mobile Gait Assessment^{1,3}: enrolling</u> We're mobile! Meet us in- or outside of the lab for a quick walking assessment. The goal of this study is to develop a clinically accessible measurement of walking, mobility, and general health using mobile technologies. Participation involves: providing health history, a walking assessment, and assessments of general mobility.</p> <p>Duration: 30-45 minutes Location: Varies, contact us for upcoming locations</p>	All ages	All individuals able to walk 15 meters, with or without assistance
<p><u>Coordination of Human Walking⁴: enrolling</u> This study assesses walking in healthy individuals. Participants may be asked to walk inside and outside of</p>	18 and older	Healthy adults

<p>the motion analysis lab while wearing motion capture markers, inertial sensors, or both.</p> <p>Duration: Single session, 1-2 hours</p> <p>Location: BRaIN Lab, Davis Campus and Medical Campus, contact us for upcoming locations</p>		
<p><u>Genetic Variation, Stress, and Functional Outcomes After Stroke Rehabilitation (STRONG Study)¹: ongoing study, closed to new enrollment</u></p> <p>This study assesses how genetics, stress, and rehabilitation therapy affect recovery from stroke. Participation involves: saliva collection, questionnaires, and functional tests using the arms and hands.</p> <p>Duration: 4 visits, 10-60 minutes each</p> <p>Location: UC Davis Medical Center and BRaIN Lab, Medical Campus, Sacramento</p>	<p>18 or older</p>	<p>Individuals admitted to UC Davis Medical Center with a recent stroke</p>
<p><u>Corticospinal Efficacy as a Prognostic Indicator of Walking Recovery Post-Stroke (CST Study)²: enrolling soon</u></p> <p>This research study assesses the relationship between mechanical and physiological factors of walking after stroke with the goal of developing a predictive biomarker of walking recovery. Participation involves: evaluation of walking with motion capture, non-invasive brain stimulation (TMS), and functional tests. A subset of individuals will participate in a 6-week power training program focused on the leg muscles, with walking and functional evaluations at the beginning and end of 6-week training.</p> <p>Duration: Assessment only – 4-5 hours for walking evaluation, 1-2 hours for functional tests, may be scheduled separately or together. Training program – 18 training sessions, 90 minutes each (3 per week x 6 weeks) plus assessments (above) before and after training.</p> <p>Location: BRaIN Lab, Davis Campus</p>	<p>18 and older</p>	<p>Stroke Survivors (≥ 6 months following cortical or subcortical stroke), able to walk 15 meters with or without a device</p>
<p><u>The Long-Latency Reflex: A Biomarker for Functional Impairment Following Stroke (LLR Study)¹: enrolling soon</u></p> <p>This study assesses ankle strength, walking ability, and reflexes that we hypothesize are a biomarker for leg function after stroke. Participants will perform ankle movements combined with non-invasive brain stimulation (TMS). Some participants will receive combined TMS and peripheral nerve stimulation to adapt brain activity and movement.</p> <p>Duration: Single session, 3-4 hours.</p> <p>Location: BRaIN Lab, Davis Campus</p>	<p>18 and older</p>	<p>Healthy individuals or Stroke Survivors (≥ 6 months following cortical or subcortical stroke)</p>

<p>ABILITY – Advancement of Brain Investigation Leading to Individualized Trajectory in Youth^{5,6}: enrolling soon</p> <p>This study will investigate brain functioning during active, goal-directed movements of the hands and arms. Participation will involve: a brain scan, functional assessments, and testing with non-invasive brain stimulation (TMS). These assessments may be scheduled in separate sessions.</p> <p>Duration: 1-2 hour brain scan, 1-2 hour functional assessments, 3-4 hour non-invasive brain stimulation session</p> <p>Location: BRaIN Lab, Medical Campus, Sacramento</p>	<p>6-18 years of age</p>	<p>Healthy children or children with unilateral spastic cerebral palsy</p>
<p>HEBB – Human-robot Enabled system to induce Brain-Behavior adaptations⁷: coming soon</p> <p>This project will develop an intelligent robotic system that will provide personalized, adaptive feedback to optimize motor learning and maximize adaptation of walking behavior. Participation will involve walking on an instrumented treadmill with: a) real-time behavioral feedback, b) combined non-invasive brain and peripheral nerve stimulation to modulate brain activity, or c) both.</p> <p>Duration: Two sessions: 1-2 hour adaptation session + 60 minute follow-up next day.</p> <p>Location: BRaIN Lab Davis Campus</p>	<p>18 or older</p>	<p>Healthy adults</p>
<p>Watch here for new projects coming soon</p> <p>We are constantly developing new projects. Check here often to stay updated on research opportunities!</p>		

Project Support Provided By:

¹National Institutes of Health

²U.S. Department of Veterans Affairs, Rehabilitation R&D

³UC Davis School of Medicine

⁴UC Davis Center for Health & Technology

⁵UC Davis NIDILIRR Neuromuscular Research Center

⁶Cerebral Palsy Alliance Research Foundation

⁷National Science Foundation