**Wu Tsai Neurosciences Institute**

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| **Faculty** | | **Title** | **Research Focus** |
| **Anesthesiology, Perioperative & Pain Medicine** | | | |
|  | Martin Angst | Professor | Immune clock of pregnancy |
|  | David Clark | Professor | Sex differences in Immune contributions to pain after injury in rodents |
|  | David Drover | Professor | Pharmacokinetic and pharmacodyamic changes in pregnancy |
|  | Pamela Flood | Professor | Identification of factors predicting pain and poor recovery after childbirth, Outcome after dural puncture, Factors related to maternal satisfaction with care, sex differences in faculty assignment and burnout; Gabapentin and opioid cessation in high risk parturients |
|  | Rona Giffard | Professor, Emerita | Mechanisms underlying cerebral ischemia specific to female mice  *Co-I 2014 WHSDM seed grant:* Sex-specific recovery from stroke: differences in clinical trajectory |
|  | Sean Mackey | Professor | Sex/gender differences for the effect of opioids on baseline brain structure |
|  | Creed Stary | Assistant Professor | Mechanisms underlying cerebral ischemia specific to female mice |
|  | Vivianne Tawfik | Assistant Professor | Sex differences in Immune contributions to pain after injury in rodents |
| **Bioengineering** | | | |
|  | Russ Altman | Professor | Examination of sex-differential effects in normal tissue and drug response expression data  *PI 2018 WHSDM seed grant:* Developing a robust baseline gene expression dataset for menstrual cycle variability in blood |
|  | David Camarillo | Assistant Professor | Method for examining egg health - found that mechanical consistency of eggs can help predict quality; Will inform need for more egg collection cycles, which are expensive and invasive |
|  | Jennifer Cochran | Professor | Engineered a protein that interferes with breast and ovarian cancer signaling |
|  | Stephen Quake | Professor | Non-invasive diagnosis of fetal aneuploidy in maternal blood; Single cell RNA-seq to examine changes in the human endometrium throughout the menstrual cycle |
| **Biomedical Data Sciences** | | | |
|  | Wing Wong | Professor | *Co-I 2017 WHSDM seed grant:* Leveraging aneuploidy to examine sex chromosome effects in neurodevelopment |
| **Chemical & Systems Biology** | | | |
|  | Daria Mochly-Rosen | Professor | Reducing reactive aldehyde levels to treat endometriosis-associated pain |
| **Comparative Medicine** | | | |
|  | Joseph Garner | Associate Professor | Sex-biased disorders (trichotillomania, compulsive skin picking, autism); Health delivery disparities; Biostatistics for personalized medicine, and sex or gender based research in animal and human trials |
| **Dermatology** | | | |
|  | Howard Chang | Professor | *Co-I WHSDM 2017 seed grant:* Investigating sex differences in human plasmacytoid dendritic cell function and regulation |
|  | Kevin Wang | Assistant Professor | Sex differences in melanoma survival  *PI 2015 WHSDM seed grant:* Integrated proteomic and transcriptomic analysis of X and Y sperm |
| **Developmental Biology** | | | |
|  | Kyle Loh | Assistant Professor | *Co-I 2019 WHSDM seed grant:* Uncovering potential sex differences in male and female human primordial germ cells |
| **Genetics** | | | |
|  | Anne Brunet | Professor | Aging in males and females |
|  | Polly Fordyce | Assistant Professor | Proteases and pregnancy |
|  | William Greenleaf | Associate Professor | *Co-I 2018 WHSDM seed grant:* Molecular mechanisms that control sexual differentiation of the mammalian brain |
|  | Billy Li | Associate Professor | RNA editing sex specific |
|  | Mike Snyder | Professor | Male & female metabolomic, methyome, proteome, genome  *Co-I 2018 WHSDM seed grant:* Modeling endothelial dysfunction in preeclampsia using patient-specific iPSCs; *Co-I 2014 seed grant:* Sex differences in adipocyte responses to experimentally-induced weight gain |
|  | Hua Tang | Professor | *Co-I 2014 WHSDM seed grant:* Elucidating the APOE-by-gender interaction in Alzheimer’s disease |
|  | Doug Vollrath | Associate Professor | Retinal biology |
| **Health Research and Policy** | | | |
|  | Victor W. Henderson | Professor | Treatment of women with Alzheimer's disease |
| **Medicine** | | | |
|  | Marcia Stefanick | Professor | Sex and gender differences in medicine; Women’s health across the lifespan |
|  | Matthew Wheeler | Assistant Professor | Sex differences in genetic determinants of extreme cardiopulmonary fitness |
| **Microbiology & Immunology** | | | |
|  | Mark Davis | Professor | Systems analysis of sex differences reveals an immunosuppressive role for testosterone in the response to influenza vaccination |
|  | Holden Maecker | Professor | Sex differences in the human immune monitoring center |
| **Molecular and Cellular Physiology** | | | |
|  | Daniel V. Madison | Associate Professor | *PI 2017 WHSDM seed grant:* Sex differences in hippocampal physiology & response to circadian dysfunction |
|  | Merritt Maduke | Associate Professor | Development of an inhibitor for CLC-Ka chloride transporter inhibitor – as a potential treatment for hyponatremia (women have generally worse outcomes than men) |
|  | Thomas Sudhof | Professor | Including both sexes in studies of the formation of synapses and synaptic communication |
| **Neurology & Neurological Sciences** | | | |
|  | Marion Buckwalter | Associate Professor | *PI 2014 WHSDM seed grant:* Sex-specific recovery from stroke: differences in clinical trajectory |
|  | Michael Greicius | Associate Professor | *PI 2014 WHSDM seed grant:* Elucidating the APOE-by-gender interaction in Alzheimer’s disease  *Co-I 2018 WHSDM seed grant:* X-ploring the sex specific genetic architecture of late-onset Alzheimer’s disease |
|  | Maarten Lansberg | Associate Professor | *Co-I 2015 WHSDM seed grant:* Sex differences in stroke prevention therapy in atrial fibrillation |
|  | Beth Mormino | Associate Professor | Understanding the impact of sex in Alzheimer's disease |
| **Neurosurgery** | | | |
|  | Maheen Adamson | Associate Professor | Sex differences in traumatic brain injury in the veteran population – focus on brain imaging |
|  | Theo D. Palmer | Professor | *PI 2016 WHSDM seed grant:* Examining sex differences in the human and mouse placental transcriptome during a vulnerable neurodevelopmental window |
| **Neurobiology** | | | |
|  | Nirao Shah | Professor | Sex and gender differences in the brain, sex hormones, sex difference in neuro-psychiatric illnesses  *PI 2018 WHSDM seed grant:* Molecular mechanisms that control sexual differentiation of the mammalian brain  *Co-I 2019 WHSDM seed grant:* Testing hypotheses about sex differences in PTSD using large-scale genetic data |
| **Obstetrics & Gynecology** | | | |
|  | Vittorio Sebastiano | Assistant Professor | Stem Cell Biology, Early Human Development Fate Determination, iPSC derivations translational opportunities  *PI 2018 WHSDM seed grant:* Uncovering potential sex differences in male and female human primordial germ cells |
| **Otolaryngology** | | | |
|  | Robert K. Jackler | Professor | Tobacco advertising targeting (e.g., youth, women, African Americans) |
| **Pathology** | | | |
|  | Marius Wernig | Professor | Breast cancer - stem cells and reprogramming into the neural lineage |
|  | Robert West | Professor | Genetic and phenotypic studies of the pathogenesis & subclassification of human breast cancer, employing genetic, tissue array, 3SEQ, and computer learning approaches |
| **Psychiatry and Behavioral Sciences** | | | |
|  | Cara Bohon | Assistant Professor | Emotion regulation in binge eating and purging among adolescents; Neural links between OCD and anorexia; Taste reward processing in pediatric obesity |
|  | Jennifer Bruno | Instructor | Longitudinal investigations of neurobiological and behavioral outcomes in Fragile X Syndrome and autism spectrum disorders; Neural circuitry underlying cognition |
|  | Victor Carrion | Professor | Neurobiological sex and gender differences in youth with PTSD symptoms by insula measures |
|  | Luis de Lecea | Professor | *Co-I 2014 WHSDM seed grant:* Androgen signaling in alcohol-seeking behavior between genders |
|  | Laramie Duncan | Assistant Professor | *PI 2019 WHSDM seed grant:* Sex and gender differences in PTSD using large-scale genetic data |
|  | Lawrence Fung | Assistant Professor | Sex and gender differences in autism spectrum disorder; multimodal neuroimaging tools to study GABA neurophysiology in individuals with ASD and fragile X syndrome |
|  | Scott Hall | Associate Professor | Effects of social gaze training on brain and behavior in Fragile X Syndrome; Treatment of disruptive behaviors in Fragile X Syndrome |
|  | Joachim Hallmayer | Professor | Analyses of X chromosome parent-of-origin and cognitive-behavioral assessment to elucidate the effects of monosomy and X-linked imprinting on neurodevelopment and neural function in young girls with Turner syndrome, pre-estrogen replacement |
|  | Antonio Hardan | Professor | Autism in girls and boys |
|  | David Hong | Assistant Professor | Genetic conditions within adolescents (fragile X syndrome, Turner syndrome)  *PI 2019 WHSDM seed grant:* Leveraging aneuploidy to examine sex chromosome effects in neurodevelopment  *Co-I 2019 WHSDM seed grant:* Sex and gender differences in PTSD using large-scale genetic data*; Co-I 2016 seed grant:* E Determining the role of sex chromosomes in normal and abnormal placentation with implications for pregnancy and child health |
|  | James Lock | Professor | Systematic research for effective treatment of eating disorders |
|  | Rachel Manber | Professor | Treatment for insomnia during pregnancy |
|  | Vinod Menon | Professor | Advanced imaging and computational techniques to investigate the functional and structural architecture of cognitive networks in the brain  *Co-I 2018 WHSDM seed grant:* Connectivity of voice processing brain networks in female children with autism and its link to social communication abilities |
|  | Ruth O'hara | Professor | Neurocognitive impairment |
|  | Natalie Rasgon | Professor | Reproductive endocrine status of women with affective disorders; neurobiology of the effects of hormone therapy in aging women |
|  | Allan Reiss | Professor | Study and treatment of individuals affected by fragile X syndrome, sex chromosome variation (e.g., Turner and Klinefelter syndromes), Williams syndrome, 22q deletion syndrome, type 1 diabetes and preterm births; Studies how genetic and environmental factors affect brain structure, function, and the developement of person with these disorders  *Co-I 2017 WHSDM seed grant:* Sex differences in the neural correlates of ADHD: the role of the X-chromosome |
|  | Manish Saggar | Assistant Professor | Developing methods to model the temporal dynamics of brain activity in individuals with fragile X syndrome and healthy controls |
|  | Nirao Shah | Professor | Sex and gender differences in the brain, sex hormones, sex difference in neuro-psychiatric illnesses  *PI 2018 WHSDM seed grant:* Molecular mechanisms that control sexual differentiation of the mammalian brain  *Co-I 2019 WHSDM seed grant:* Testing hypotheses about sex differences in PTSD using large-scale genetic data |
|  | Manpreet Singh | Associate Professor | Sex differences in youth psychiatric disorders |
|  | David Spiegel | Professor | Group therapy and community support to improve outcomes and mental health for women with breast cancer; Intellectural impairement in women with breast cancer; Management of insomnia in breast cancer patients |
| **Radiology** | | | |
|  | Sharon Pitteri | Associate Professor | *Co-I 2015 WHSDM seed grant:* Integrated proteomic and transcriptomic analysis of X and Y sperm |