

Special Merkin Institute for Translational Research Event

The David Dreier ~ Neil Serebryany Lecture



Tuesday, Sept. 29th at 4:00 pm, Chen 100

Refreshments @ 3:30 pm, Chen Breezeway

Jeanne Loring, Ph.D.

Faculty Host: Viviana Gradinaru, Ph.D.

Davis Leadership Chair & MITR Director

Fulfilling the promise of pluripotent stem cells: first-in-human autologous neuron replacement therapy for Parkinson's disease

Parkinson's disease causes selective loss of dopaminergic neurons, producing disabling motor symptoms that current drugs manage but cannot reverse. We developed autologous iPSC-derived dopaminergic precursor cells (DANPCs) to avoid the immunosuppression risks—including one death—seen in allogeneic trials. Our fail-fast genomic quality control pipeline uses whole genome sequencing at three stages of development to discard cells with high-risk mutations, while our NeuriTest assay predicts efficacy via machine learning. After positive academic preclinical results, we founded Aspen Neuroscience in 2018. In 2024, the company launched ASPIRO (NCT06344026), the first multicenter Phase 1/2a autologous DANPC trial, earning FDA Fast Track and RMAT status. The 2025 report of eight patients one year post-transplantation showed consistent clinical improvement with no significant adverse events. On the basis of this success, Aspen is preparing for a Phase 3 pivotal trial.

Speaker Bio:

A noted stem cell pioneer, entrepreneur, and AIMBE Fellow, Dr. Jeanne Loring is a Professor (emerita) at the Scripps Research Institute, where she researched the use of stem cell technology to address neurological diseases and served as founding Director of The Center for Regenerative Medicine. Alongside her distinguished career in academia and in shaping public policy on the ethical generation and use of stem cell technologies, Loring founded two companies: Arcos Biosciences and Aspen Neuroscience Inc., with the latter biotech specializing in the development of personalized stem cell-derived dopamine neuron replacement therapy for Parkinson's disease.

For information, please contact MITR Scientific Director, Jennifer Treweek (treweek@caltech.edu).

Caltech will be taking photos/video at this event for use in advertising and other promotional materials, whether in print, electronic, or other media.