Department of Biomedical Engineering
UNIVERSITY OF WISCONSIN–MADISON

Fall 2026
Seminar Series

Treating Neurological Disorders Using Gene Editing

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University of Illinois Urbana-Champaign



Big Ten Speaker Exchange

Genetic disorders are particularly challenging to treat, and conventional therapies primarily focus on symptom management while allowing the underlying pathogenic events to persist and drive disease progression. While recent developments in gene therapy make it possible to provide functional copies of defective genes, rapid advances in gene editing are poised to fundamentally transform biomedicine by enabling precise manipulation of genomic DNA in living cells to treat human disease. In this talk, I will introduce recent advances in CRISPR base editing for the treatment of neurological disorders and describe therapeutic strategies developed in my laboratory for treating Huntington's disease. Using these examples, I will discuss the progression from molecular design to testing in cells and animal models, as well as the remaining challenges associated with translating these approaches to patients.

ABOUT the SPEAKER

Pablo Perez-Pinera is an Associate Professor in the Department of Bioengineering at the University of Illinois Urbana-Champaign. He earned MD and PhD degrees from the University of Oviedo in Spain and completed postdoctoral training at Duke University and the Massachusetts Institute of Technology. His laboratory develops genome-editing and epigenome-editing technologies for the treatment of neurological and other genetic disorders. These approaches have been applied to disorders including Huntington's disease, Rett syndrome, amyotrophic lateral sclerosis, and Duchenne muscular dystrophy.

Monday, December 7 at Noon
1003 Engineering Centers (Tong Auditorium)