

2020s

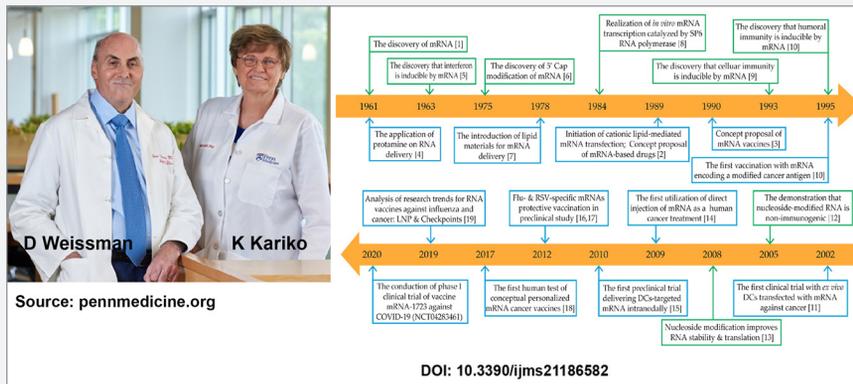
2020

BIOMEDICAL MILESTONES

Leveraging decades of work on RNA viruses and the base modification insights of Kariko and Weissman lead to rapid development and deployment of COVID-19 mRNA vaccines.

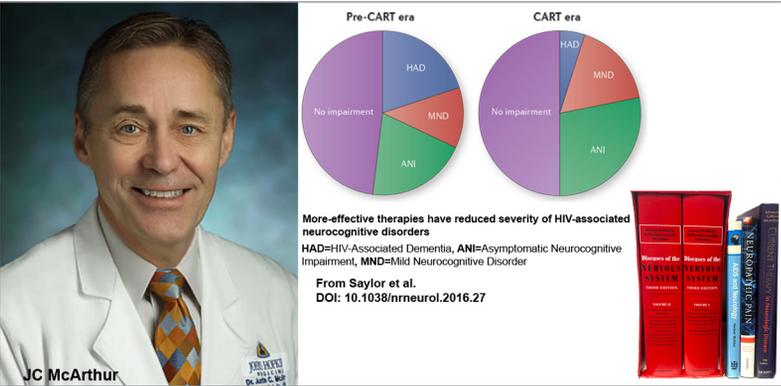
HISTORICAL CONTEXT

COVID19 declared global pandemic March 2020.



BIOMEDICAL MILESTONES

ANA President in 2020 & '21, J.C. McArthur has advanced understanding and treatment of immune-mediated neurological complications of infectious diseases, particularly HIV/AIDS, and is a global leader in academic neurology, research innovation, and dedication to education. He led the ANA through a generational crisis of global pandemic and social upheaval.



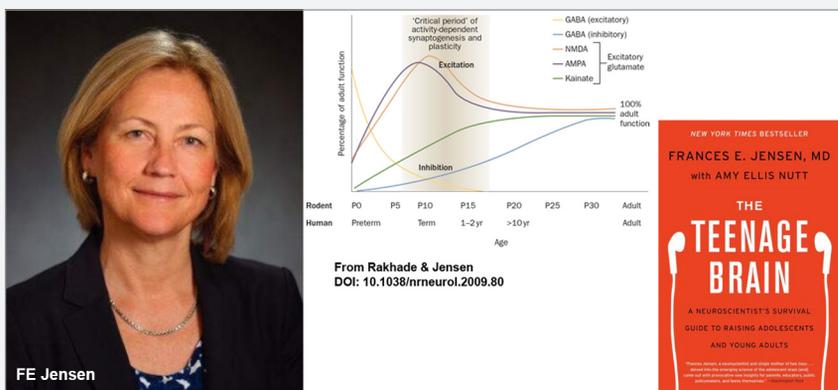
HISTORICAL CONTEXT

- January 6 Capitol riot roils the nation.
- Biden inaugurated.
- DALL-E text-to-image models released by OpenAI.

2022

BIOMEDICAL MILESTONES

- ANA President in 2022 & '23, F.E. Jensen is internationally recognized for her research on epilepsy, brain development, particularly in adolescence, and interaction of epilepsy with autism spectrum and dementia disorders, with a focus on developing new therapies for clinical trials.



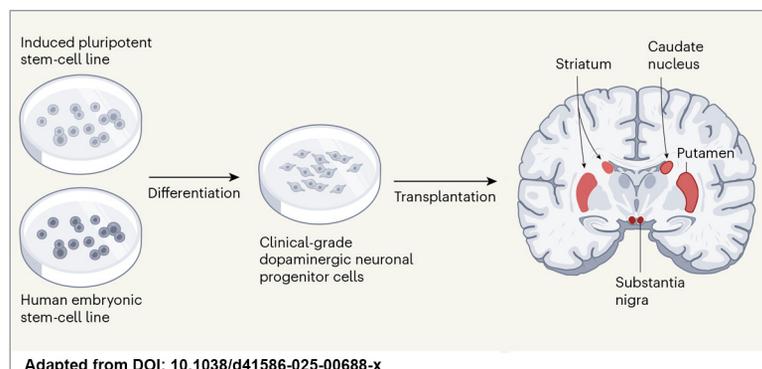
HISTORICAL CONTEXT

First images received from James Webb Space Telescope (JWST).

2023

BIOMEDICAL MILESTONES

- FDA approves Lecanemab, first anti-amyloid therapy to show reduced decline on the Clinical Dementia Rating Scale in early stage Alzheimer's.
- First clinical trials begin of dopaminergic stem cell (hESC or iPSC) transplantation for Parkinson's Disease.

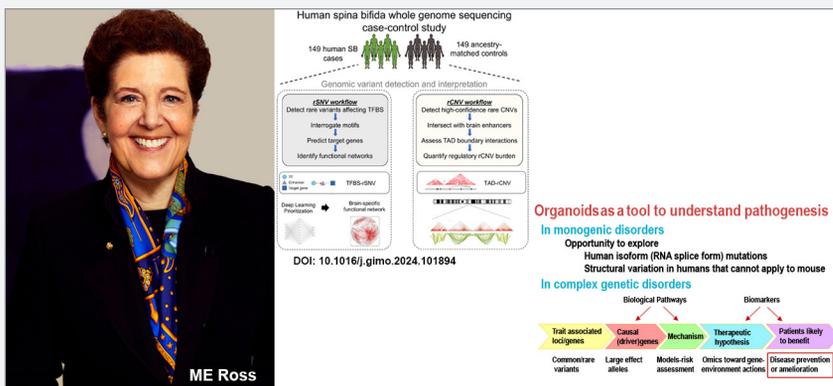


HISTORICAL CONTEXT

TIME makes ChatGPT the "person of the year" cover.

BIOMEDICAL MILESTONES

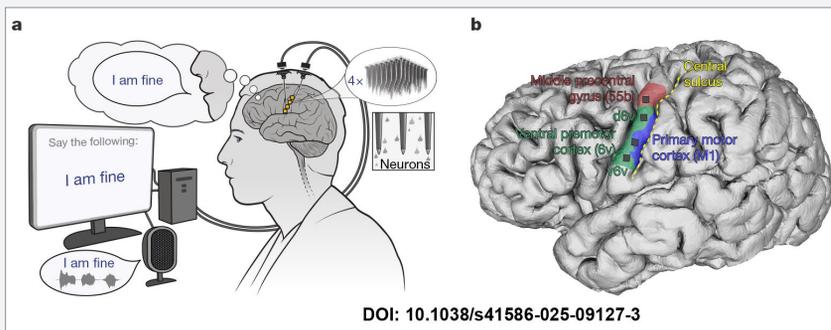
- ANA President in 2024 & '25, M.E. Ross has translated human mutation to mechanisms of brain malformations, epilepsy and ataxias; pioneered population-based whole genome studies in spina bifida, using systems biology and machine learning to identify patterns of risk and optimize prevention strategies.



HISTORICAL CONTEXT

- G. Hinton and J.Hopfield receive Nobel for development of large language models of AI networks.

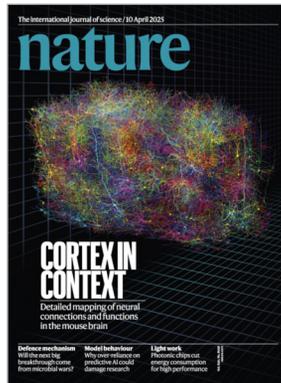
- A brain computer interface (BCI) neuroprosthesis restores cortically generated, self-paced conversation at 32 words/min for an ALS patient with severe dysarthria and tetraplegia.



2025

BIOMEDICAL MILESTONES

- BRAIN Initiative MICrONS reports high res images of single cells in mouse visual cortex mapped onto their responses—200,000 cells and 523 M connections. Data available on: microns-explorer.org.
- First report of base editing, CRISPR technique, delivered in vivo using lipid nanoparticles rather than viral vectors, to directly correct 2 defective alleles of the CPS1 gene in an infant with this recessively inherited, fatal liver condition. NEJM DOI: 10.1056/NEJMoa2504747.



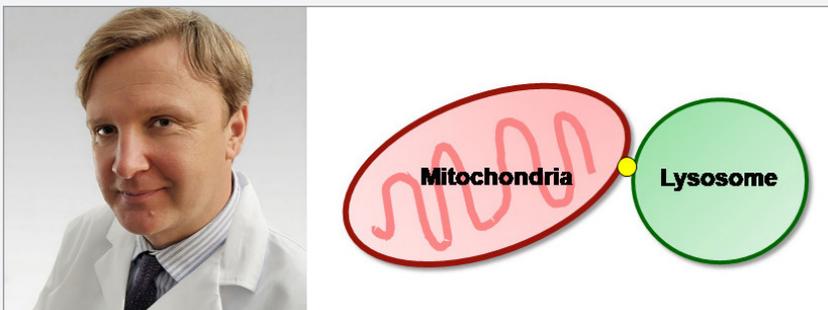
HISTORICAL CONTEXT

The Nobel Prize in Physiology or Medicine 2025 was awarded jointly to Mary E. Brunkow, Frederick J. Ramsdell and Shimon Sakaguchi “for their discoveries concerning peripheral immune tolerance”.

2026

BIOMEDICAL MILESTONES

- ANA President in 2026 & '27, Dimitri Krainc discovered how lysosomes and mitochondria interact in normal and diseased neurons. This work opened a new area of cell biology and led to pioneering design and development of targeted therapies for neurological disorders.



- At the American Neurological Association 2025 meeting, one of the plenary themes was how “genetics, AI, and data-driven approaches” are changing neurology.

