



Christopher & Dana Reeve Foundation Research Vision

Catalyze, Energize, and Educate

Vision

Curing spinal cord injury and improving quality of life for individuals and families impacted by paralysis



**No FDA
approved
treatment
for any SCI
associated
outcome**





Pathophysiology of SCI

Acute (<48hours)

Spinal cord compression/transection

Neurons and oligodendrocytes damaged

Blood-spinal cord barrier compromised

Influx of inflammatory cells

Spinal cord swelling

Sub-Acute (48h to 14 days)

Ischemia and excitotoxicity

NMDA, AMPA, Kainate receptor activation

Reactive Oxygen Species

Intermediate (14 D to 6 months)

Cystic cavitations coalesce to form barrier

Loss of tissue volume containing extracellular fluid, thin bands of connective tissue and macrophages

Chronic (>6 months)

Glial scars formed of reactive astrocytes

Inflammatory cells cause secretion of proteins that are inhibitory to axonal growth (chondroitin sulfate proteoglycan)

Inhibitors of axon regeneration (e.g., Nogo)



How do we get to the long-term vision?

Robust Clinical Pipeline

CNS trials have only a 9% chance of achieving regulatory approval!
Currently <100 unique clinical trials in SCI*

#1: INCREASE CLINICAL TRIALS

- More clinical trials increase chances of success

#2: DIVERSE CLINICAL TRIALS

- Diverse devices, therapeutics, and drug targets

#3: SMART CLINICAL TRIALS

- Well-designed trials that will be informative even if they fail

* Excluding exercise and food supplements

Neuroplasticity Clinical Trials

Anti-RGMA (Elezanumab-ABT555 and MT-3291) Phase II Abbvie and Mitsubishi

NervGen291 Phase1b/2

Intermittent hypoxia Phase I/II U of Colorado and Spaulding Rehab

Nogo Trap (Axer-204) Phase 1/II ReNetX



Cell Replacement Clinical Trials

OPI Oligodendrocyte Progenitor Cells

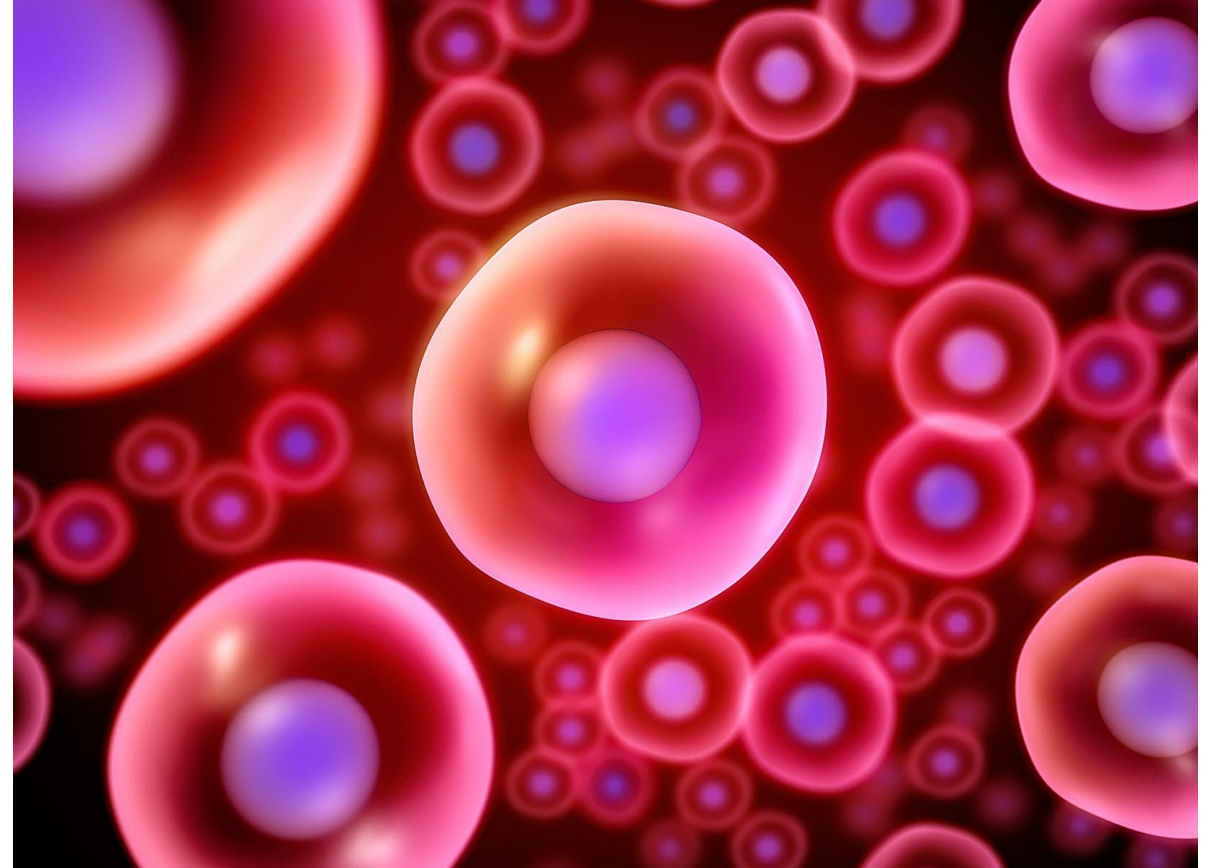
Mesenchymal Stem Cells Phase II Mayo Clinic

Neural Stem Cells Phase I Neuralstem

IPSCs Memorial Hermann

Schwann cells Phase I U of Miami

Neuro-Spinal Scaffold Phase I In Vivo
Therapeutics



Bioelectric Stimulation Clinical Trials

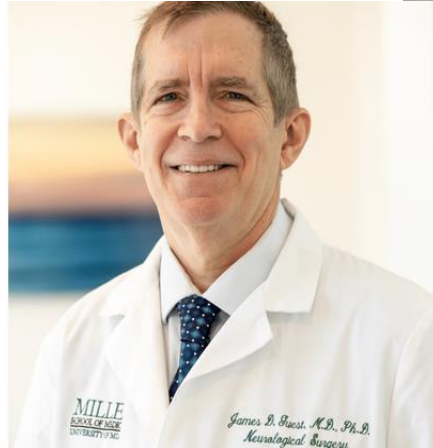
Transcutaneous Stimulation
Onward

Epidural Stimulation
Onward

Brain-Spinal Interface
NeuroRestore and Onward



Reeve SAB



Jim Guest MD, PhD



Ona Bloom, PhD



Chet Moritz PhD



Joanna Stanicka PhD



Cristin Welle, PhD



Armin Curt MD FRCP



Rex Marco MD



Reeve Foundation Research Vision

Establish Foundation as the main catalyst for field enabling research

Catalyze

Proof-of-concept
clinical trials

- Bladder
- BSI

Energize

Reeve SCI Investor
Symposium with
Lineage Cell
Therapeutics

Educate

Open Data and
Research Tools

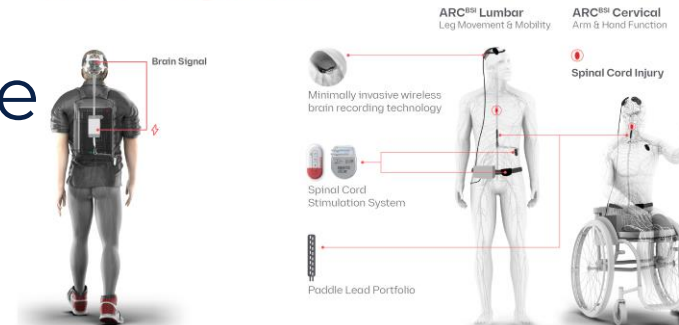
Catalyze

Bladder



Brain Spine
Interface

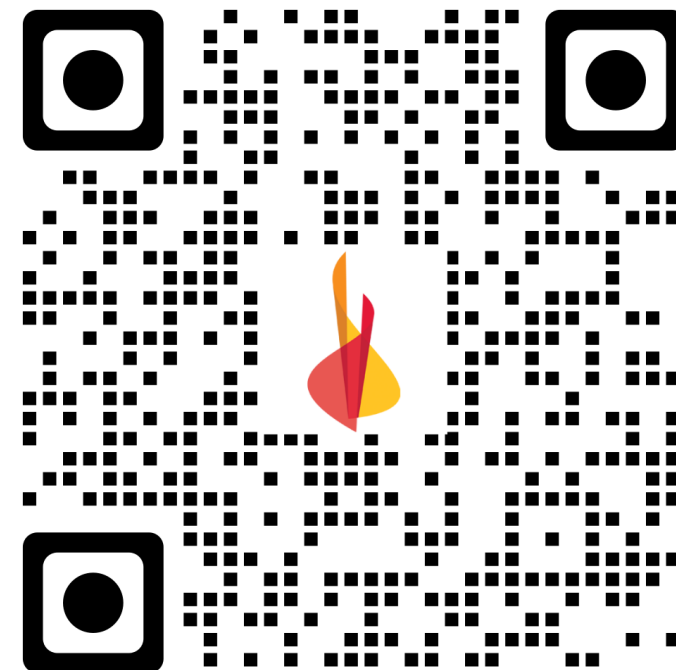
ARC^{BSI} System



Energize



Reeve and Spinal
Research Pre-Clinical
RFA 2024





Educate

Open Data



Research Services

 **PsychoGenics**
Transforming CNS Discovery