Igor Lavrov, MD, PhD

Translational Neuroscientist | Clinical Neuromodulation | BCI & Rehab Integration | SCI | Pain

@ lavrov.igor@mayo.edu; igor.lavrov@gmail.com +1 (310) 980 4457
215 Highland CT SW Rochester MN 55902
linkedin.com/in/igor-lavrov
Portfolio: StimUp.org Startup/Sandbox: UpStim.com
Google Scholar | Web of Science | Loop | Sci Profiles

PROFESSIONAL SUMMARY

Neuroscientist with over 25 years of experience translating neuroscience discoveries into clinical applications. Trained as a neurologist and deep brain stimulation (Mayo Clinic) with extensive work in spinal cord injury, neurorehabilitation, and neuromodulation. Extramurally funded PI and founder of a neurotechnology startup developing wearable spinal stimulation integrated with BCI and robotics. Currently leading large-animal models of spinal cord injury and neuromodulation. Positioned to accelerate clinical translation to real-world applications.

TECHNICAL & TRANSLATIONAL EXPERTESE

- **Neuromodulation:** Epidural/transcutaneous spinal cord stimulation, cortical stimulation.
- **Preclinical models:** Pig and rodent SCI models, kinematics, neurophysiology.
- **Clinical Skills:** Neurology, DBS planning and programming, SCI and pain management.
- **Neurointerfaces:** Cortico-spinal integration, BCI, sensorimotor mapping, neuroplasticity.
- **Data & Signal processing:** Kinematic tracking, EMG/EEG, neurophysiological analysis.
- **Trial Design & Regulatory:** IRB/FDA navigation, first-in-human planning, partnerships.

LEADERSHIP & ACADEMIC APPOINTMENTS

- Assistant Professor, Neurology, Mayo Clinic, Rochester, MN (2015–Present)
- Adjunct Associate Professor, IFMB, KFU, Kazan (2012–2017)
- Junior Faculty, Physiological Science, Neurosurgery, UCLA (2008–2011)

SELECTED TRANSLATIONAL PROJECTS

- **Translational pig model:** Leading pig SCI studies on spinal stimulation and gene-cell therapy to restore motor function. Aligned with BCI and closed-loop modulation for paralysis.
- **Clinical Translation:** Founder and scientific lead of a startup developing a noninvasive spinal stimulator integrated with BCI and VR-guided robotics, supported by NIH Blueprint.
- **Funded Research:** Spinal neuromodulation and recovery via modeling and experimentation.

EDUCATION & TRAINING

- **Clinical Fellowship:** Clinical Neuromodulation & Deep Brain Stimulation, Mayo (2017–2019)
- **Postdoctoral Fellowships:** Neuroscience, University of Louisville and UCLA (2002–2007)
- **PhD, Neuroscience:** Pavlov Institute of Physiology *"The mechanisms of central pattern generators activation with electrical spinal cord stimulation."* (1999–2002)
- **MD, Neurology** (1992–1999)

SELECTED GRANTS, FUNDING & AWARDS

- NIH Blueprint MedTech Seedling Award (2024): BCI-controlled spinal stimulator (PI/UpStim)
- MN OHE (2017-2020; 2023–2026): Spinal circuitry neuromodulation in neurotrauma (PI)
- International BCI Award Nominee, 2021
- Mayo Clinic Team Science Award, 2017

PUBLICATIONS (>100 articles): Google Scholar | Loop