

Unit Name

Neural Circuit Unit

Collaborations

John Martin, CUNY, USA, spinal cord injury

Erich Jarvis, Rockefeller University, USA, single nucleus sequencing

Joriene C. De Nooij, Columbia, USA, sensory neurons

George Mentis, Columbia, USA, motor circuits and spinal cord injury

Kazuhiko Seki, National Institute of Advanced Industrial Science and Technology, Japan, motor circuits

Victoria Abaira, Rutgers University, USA, motor circuits

Samuel Sober, Emory University, USA, EMG recording

Students Supervised:

- Dmitrii Shipkov (PhD Student)
- Taniguchi Tomohiko (PhD Student)
- Sueyoshi Akari (Research Intern)
- Gaifutdinova Nazgul (Research Intern)
- Hasegawa Rin (Research Intern)
- Khan Mohd Yaqub (Research Intern)
- Kuge Ryoya (Research Intern)
- Mohd Yaqub Khan (Research Intern)
- Chuang Yu Ting (Research Intern)
- Rin Hasegawa (Research Intern)

Scholarly Contributions and Creative Productions (by Faculty)

Journal Article

1. Takatani, H.; Fujita, N.; Imai, F.; Yoshida, Y.
Modulation of Extrinsic and Intrinsic Signaling Together with Neuronal Activation Enhances Forelimb Motor Recovery after Cervical Spinal Cord Injury. *eNeuro* 2025, 12.
2. Pathan, J.; Amer, A.; Yoshida, Y.; Martin, J. H.
Activity Protects Spinal Premotor Interneurons from Microglial Phagocytosis and Transneuronal Degeneration After Corticospinal Injury. *bioRxiv : the preprint server for biology* 2025.
3. Imai, F.; Matsuura, K.; Yang, E.; Klinefelter, K.; Alexandrou, G.; Letelier, A.; Takatani, H.; Osakada, F.; Yoshida, Y.
Layer Va Neurons, as Major Presynaptic Partners of Corticospinal Neurons, Play Critical Roles in Skilled Movements. *bioRxiv : the preprint server for biology* 2024.
4. Takatani, H.; Fujita, N.; Imai, F.; Yoshida, Y.

Forelimb Motor Recovery by Modulating Extrinsic and Intrinsic Signaling as Well as Neuronal Activity after the Cervical Spinal Cord Injury. bioRxiv : the preprint server for biology 2024.

5. Nishiyama, M.; Kalambogias, J.; Imai, F.; Yang, E.; Lang, S.; de Nooij, J. C.; Yoshida, Y.
Anatomical and Functional Analysis of the Corticospinal Tract in an FRDA Mouse Model. bioRxiv : the preprint server for biology 2024.
6. Upadhyay, A.; Gradwell, M. A.; Vajtay, T. J.; Conner, J.; Sanyal, A. A.; Azadegan, C.; Patel, K. R.; Thackray, J. K.; Bohic, M.; Imai, F.; Ogundare, S. O.; Yoshida, Y.; Abdus-Saboor, I.; Azim, E.; Abaira, V. E.
The Dorsal Column Nuclei Scale Mechanical Sensitivity in Naive and Neuropathic Pain States. bioRxiv : the preprint server for biology 2024.

Scholarly Contributions (by Unit Members)

Name of Unit Member	Type	Title	Publisher	Year Pub
Ken Matsuura	Journal Article	Uncovering the electrical synapse proteome in retinal neurons via in vivo proximity labeling	eLife	28-Mar-25

Outreach Activities (For Unit Members Only)

2024-10-12	Akimasa Ishida, Congress of the Japanese Society of Basic Physical Therapy, Japanese Association of Basic Physiotherapy
2024-04-15	MAtsuura Ken, Advanced Techniques in Neuroimaging Workshop, Stansord University

Workshops and Seminars (Organized and Hosted by Faculty/Units)

Speaker Name(s)	Title	Location	Co-Organizers	Date
45 speakers	spinal cord formation, function, and beyond	OIST	James Briscoe, Artur Kania, Aya Takeoka, Yuki Goda, and Yutaka Yoshida	2025-03-11