

Motor Neuroprostheses: New Frontiers in Cognitively Controlled Technologies for People with Severe Tetraplegia

June 20

Tuesday, 12:30 pm

Billings Building—Rosedale Room

SPEAKER:



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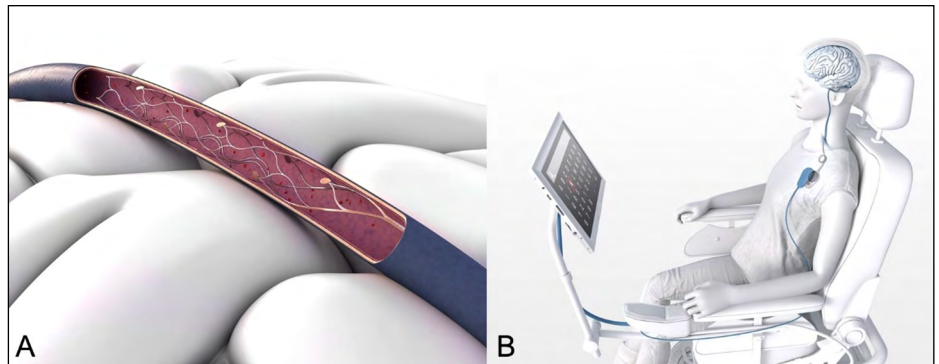
Host: Gary E. Gibson, Ph.D.

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Abstract

As we close out the first quarter of the 21st Century, Brain Computer Interface (BCI) is now a household phrase, with many emerging technologies that have the potential to indelibly change the way that humans interact with technology and the external environment. BCI technologies that aim to exert direct control over the physical environment have enjoyed a history of widely publicized progress but have not yet successfully transitioned as a technology that can be used independently in the home or without significant assistance from a team of engineers. We argue that current assistive technology offerings do not adequately address certain key functional needs of people living with severe disability, and that invasive BCI technologies have the potential to address these shortcomings. The ability to accurately evaluate and measure the functional utility of these emerging technologies will be crucial, and will specifically inform if and how they have the potential to improve the safety, peace of mind and independence of people living with severe disability.



Publications

1. Fry, A., Breyman, E., LaGrassa, E., Oxley, T. and Putrino, D., 2023. Ethical Considerations of Endovascular Brain–Computer Interfaces. In *Policy, Identity, and Neurotechnology: The Neuroethics of Brain–Computer Interfaces* (pp. 43-63). Cham: Springer International Publishing.
2. Fry A, Breyman E, LaGrassa E, Oxley T, Putrino D. Ethical Considerations of Endovascular Brain–Computer Interfaces. In *Policy, Identity, and Neurotechnology: The Neuroethics of Brain–Computer Interfaces 2023 Apr 27* (pp. 43-63). Cham: Springer International Publishing.
3. Majidi, S., Fry, A., Harel, N., Escalon, M., Breyman, E., Weber, D. and Putrino, D., 2022. LB009 Motor neuroprosthesis to restore motor control for the command of digital devices: an early feasibility study of safety in subjects with severe quadriplegia.