Universität Basel

Research Project

Louis-Jeantet Prize for Medicine

Third-party funded project

Project title Louis-Jeantet Prize for Medicine
Principal Investigator(s) Arber, Silvia ;
Organisation / Research unit
Departement Biozentrum / Cell Biology (Arber)
Friedrich Miescher Institut FMI
Department
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Animals carry out an enormous repertoire of distinct actions, spanning from seemingly simple repetitive tasks, like walking, to more complex movements requiring fine motor skills. The cental nervous system, composed of the brain and spinal cord, integrates information received from the body and coordinates its activity. Within the central nervous system, neurons never function in isolation; they are organized into neuronal circuits, which are at the core of choosing, maintaining, adjusting and terminating distinct motor behaviors to coordinate movement.

Over the last decade, Silvia Arber's laboratory has demonstrated that neuronal circuits are oranized into precise modules by functional subdivision at multiple levels of the motor system, including the spinal cord and brainstem. Thus, precisely connected neuronal subpopulations in the motor system align with the distinct behavioral functions, allowing for functional subdivision of labor and diversification of motor programs.ă This research provides important insights into the mechanisms and organizational principles responsible for the establishment and function of the motor system.

Silvia Arber will use the prize money to conduct further reserach on how neuronal circuits regulate the diversification of motor behavioral programs.

Financed by
Other sources

Add publication

Published results

3957925, Capelli, Paolo; Pivetta, Chiara; Soledad Esposito, Maria; Arber, Silvia, Locomotor speed control circuits in the caudal brainstem, 0028-0836 ; 1476-4687, Nature, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

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