Dr. Jason Gallivan will be investigating the role of cognitive brain networks in human motor learning

By Queen's Psychology
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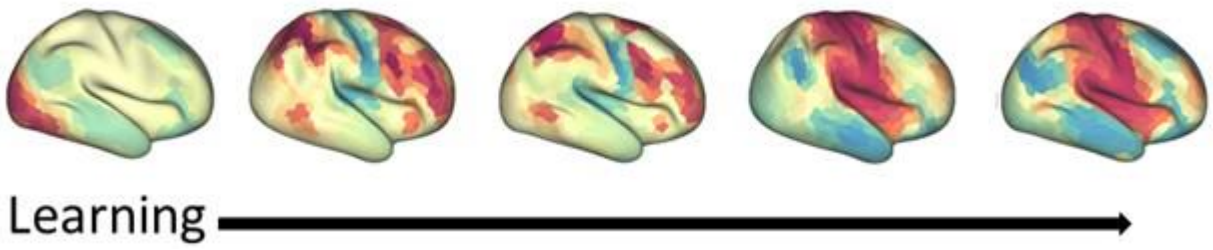
Congratulations to Queen's Psychology's **Dr. Jason Gallivan** on being among 15 Queen's researchers to receive funding from the Canadian Institutes of Health Research (CIHR) for projects addressing human health issues from cancer to pain and healthy aging.

Through the CIHR funding Dr. Gallivan and his research team will be using human functional magnetic resonance imaging (fMRI) to peek inside the brain and study neural activity while individuals perform different types of learning-related tasks. Their goal is to understand how dynamic interactions between whole-brain networks drive sensorimotor learning. Using new computational approaches, the team will characterize and quantify how brain regions change their interactions during learning, and how these changes relate to individual differences in learning performance and ability.

The human brain's capacity to learn new motor commands is fundamental to almost all activities we engage in. Such learning is not only essential when we acquire novel skills, such as learning to play a musical instrument, but it is also required on a daily basis as we adapt to changes in our environment, interact with new objects, and refine existing skills.



Caption: Learning is associated with changes in functional brain network organization over time. Areas in red (and blue) show changes in correlated activity over time.

"A fundamental and challenging problem facing cognitive neuroscience today is to understand how various forms of learning are achieved by the human brain," Dr. Gallivan explains. "The goal of this work is to produce important new knowledge of brain organization and function that can be leveraged in characterizing and treating many of the core sensorimotor and cognitive deficits that result from various brain disorders and disease."

For more information on these CIHR awards, go to the Gazette Online:
Health researchers awarded over $11.5M in funding