

## 2018 Talent Development Competition Awardees

**Title:** Identifying dimensional, data-driven brain-behaviour relationships that predict social function in people with schizophrenia spectrum disorders

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**Abstract:** Impaired social functioning is often a defining feature of individuals with schizophrenia spectrum disorders (SSDs). These patients exhibit deficits in social processes such as identifying emotions and understanding things from the perspectives of others. Such impairments are profoundly debilitating and have been linked to the ability to function in daily life. To date, investigations in SSDs tend to compare patients versus healthy individuals, and often include small sample sizes and patients with different levels of impairment, impeding the identification of consistent treatment targets. Indeed, there are currently no approved treatment options for these symptoms. Two circuits in the brain have been implicated in key social abilities affected in SSDs. However, early data from our lab suggests that subgroups of individuals may activate these brain circuits differently, which may result in different profiles of social behaviour and function among these groups. Thus, brain circuit abnormalities may differ in subgroups of people showing different levels of social impairment. In the present study, patients with SSDs and healthy individuals complete social tasks during brain imaging, as well as social cognitive, neurocognitive, and functioning measures outside the scanner. We will take advantage of the range of social impairment seen in patients with SSDs, determining for the first time whether activation in these social brain networks predict social performance and functioning across a very large sample of patients and healthy individuals. Novel methods will also be used to identify uniquely informative subgroups of participants generated based on these brain-behaviour associations. Critically, these findings should accelerate the identification of treatment targets and inform development of new treatments for social deficits in individuals with SSDs.