



**RESEARCH2REALITY**

Shining a light on research & innovation.

## **Crunching the Numbers on Mental Illness**

| An interview with Professor Mark Daley  
| Brain Researcher, Western University

### **How is math used to analyze the brain?**

I'm excited about the power that mathematics has to model the world, and the ability with modern computing power to apply that to real world problems and make progress on them. Some particular problems I'm interested in are in neuroscience where we are looking at human brains.

### **How does collaboration apply to your research?**

The brain is an incredibly complex system. The scientific community has recognized this as a grand challenge for our era, and we're getting to the point that maybe we can start to make some progress. Because this challenge is so huge, and because the system is so complex, we need people with massively disparate expertise. I can't take just a neurologist and expect them to make huge progress; I can't take just a mathematician, just a computer scientist. You need this breadth of expertise to sort of march in unison as an army towards solving this problem, and that's part of where science is going in the 21<sup>st</sup> century. It's moving further and further away from the lone genius in the Ivory Tower, and more towards huge teams of people bringing different expertise in working together. And that's really exciting because I like working in teams.

### **What are the potential benefits of your research?**

One in three Canadians at some point in their life will be clinically diagnosed with some sort of mental illness; and so that's a huge portion of our population. If you know more than two other people, chances are you are going to know someone

who needs some kind of help. And so where I draw my inspiration from is that this is hugely impactful to society, to people's quality of life; it's even impactful to our

economy. And so this is an opportunity for me to do what I love in a context that will potentially help us understand mental illness better and maybe even treat mental illness more effectively moving forward.

TODAY'S RESEARCH. TOMORROW'S REALITY.