



RESEARCH2REALITY

Shining a light on research & innovation.

The Long Journey Towards 'Eureka!'

An Interview with the University of Toronto's Medicine by Design researchers

Philip Marsden, Kidney Doctor, St. Michael's Hospital

Alison McGuigan, Biomedical Engineer

Michael Laflamme, Heart Pathologist, University Health Network

Freda Miller, Neuroscientist, Hospital for Sick Children

Philip Marsden

Historically scientists, and I'm one of them, we have not been good at championing why society should take a focused interest in science. And I would argue that at its baseline, mathematics and science, especially medical sciences, is the truth. It's hard to come up with false facts with mathematics and basic medical research.

Alison McGuigan

The reason that government funding is really so important is that it allows us to do this more basic research that is where you get the transformative ideas. That's where the internet comes from, that's where these technologies that as a child you couldn't even dream about because they're outer space, right? The crazy ideas. That's where the real innovation comes from that's going to really change the way the world works and the way, in the case of Medicine by Design, the way patients are treated in the next century.

Michael Laflamme

The payoff is going to be there, but it's a long ways down the road, and so it's challenging to go to industry and say, "Hey we've got what we think is a fantastic idea. It's going to take us two decades to make this into a product you can sell and make money from." And so government can make those long-term investments, have the patience, and also be willing to let scientists fail sometimes. It's the science that we learn from the errors that really lead to major breakthroughs.

TODAY'S RESEARCH. TOMORROW'S REALITY.



Freda Miller

Science moves in jumps. So you work and you work, and you understand a lot of things, but nothing is really that relevant to something commercial or therapeutic. And all of a sudden it's like, bang! And something has jumped out and is immediately relevant today. Companies don't have the patience for that, they need predictable things to fund. Philanthropists are very oriented towards the end part of the discovery-to-therapy road. So the only people we have to fund that essential basic discovery moving towards translation is the government.