

# **Everyday Life Is Poised for a Quantum Leap**

An interview with **Andrea Damascelli**, Professor, UBC Physics and Astronomy Scientific Director, Stewart Blusson Quantum Matter Institute and **MengXing Na**, PhD Student, UBC Physics and Astronomy, Stewart Blusson Quantum Matter Institute

#### Andrea Damascelli

These days even more so than in the past we are looking at quality of life being directly connected to available technologies.

### MengXing Na

We're at a point in time in quantum technologies where things are really starting to ramp up. One classic quantum material that's been talked about for a really long time is superconductors, and high temperature superconductors, and these materials are already in applications in many different fields from magnetic levitating trains to MRIs.

## What real world applications could this research unlock?

#### **Andrea Damascelli**

We're used to seeing MRI machines using large magnetic fields to create images that carry and bear a meaning towards diagnostics. Yet these



materials require this stage to be cooled down to very low temperature, the technology associated with it is rather complex. Imagine what we could do if we could have these machines working at room temperature. The cost would go down. Their availability would increase. These machines and the diagnostic power that comes with it would become available to everyone in the world.

And so there are so many other areas in which materials would have an impact, but to me the most exciting part is the one we can't possibly imagine. This has always been the history of discovery, from discovery of medicines, and drugs, and new technologies. These all came from what we consider to be serendipity. Reality is not quite serendipity. These were people who were after an idea and on that path, perhaps, something unexpected came up. But yet these people had the ability to recognize that and this is really to me the most exciting part.