



# RESEARCH2REALITY

Shining a light on research & innovation.

## Plucking Solutions Out of Thin Air

An interview with **Scott Mabury**, Environmental Chemist  
University of Toronto

Our field of research is environmental chemistry; really it's the chemistry of the environment. Chemicals have personalities and we interrogate those personalities to determine, where do they go, how fast do they change, what do they turn into, how they may cause harm to the ecosystem or to individual organisms within that ecosystem.

### How does your research work?

Really we use chemical pollutants as chemical probes. What are they doing in the environment? That helps us interrogate the environment, determine what can happen in the soil, what can happen in water, what can happen in air. How fast, what are the mechanisms.

The thing that we got particularly excited about was explaining why polar bears and humans are the most contaminated organisms in the world with perfluorinated acids, specific examples of which nobody knew actually were chemical pollutants. So that's a eureka moment with, well, how did that happen?

We breathe in these volatile chemicals, inside this office, for example. It could be off-gassing from the carpet if the carpet was treated, or our clothes, very common. These things can be inhaled and we will metabolically convert them from the precursor alcohols into the perfluorinated acids, the final compounds that no longer degrade. And they stick around in our bodies for three, four, five years. So they tend to reach relatively high concentrations.

TODAY'S RESEARCH. TOMORROW'S REALITY.

