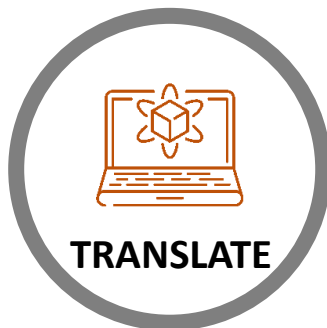Oregon State University

OSU/PNNL SRP

How can we predict
Chemical Hazards?

The Oregon State University Superfund Research Program utilizes unique technologies to discover and assess chemical hazards in our environment to improve human health.

DISCOVER

ASSESS

TRANSLATE

APPLY

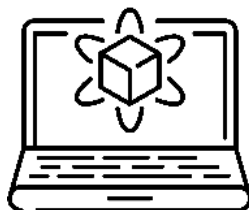There are tens of thousands of chemicals in commerce in the US.

We have safety information on **<1%** of them.

Our Center approaches this problem with a variety of tools.

Our tools move us away from animal testing and toward advanced, predictive toxicology.

We hope to identify toxic chemicals *before* people are exposed to them.

DISCOVERY TOOLS

We use samplers to detect over 1,530 chemicals in our environment.

Our zebrafish model helps us understand how some chemicals cause disease.

ASSESSMENT TOOLS

Using the zebrafish model, we can assess which chemicals pose a greater risk to human health.

Our human lung cell model can evaluate the toxicity of chemicals to human cells.

TRANSLATION TOOLS

Computer programs look at changes at the cellular level and predict what this will mean for human health and disease.

We use this information to predict toxicity in humans, so we can do less animal testing.

APPLICATION TOOLS

We apply all of this information to help reduce exposures to harmful chemicals.

One way we do this is by finding new ways to remove these chemicals from our environment through remediation.