The Waterfront *2nd Edition*

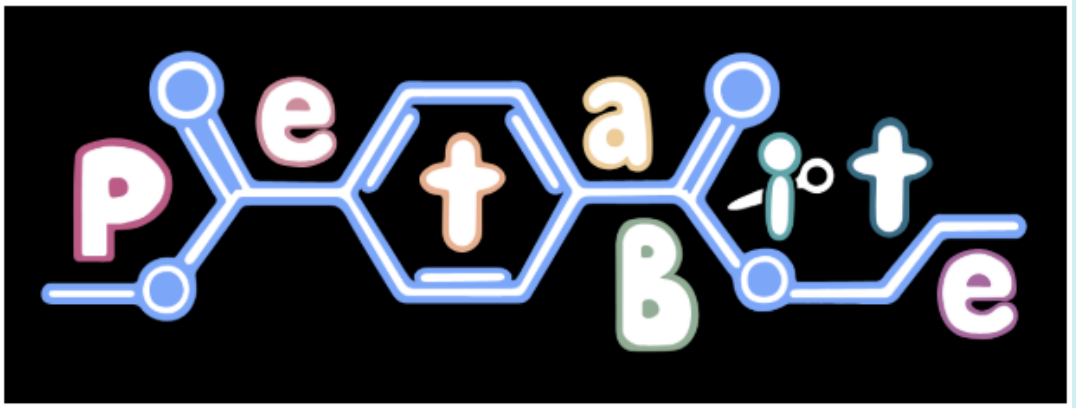
Dear iGEM Torontonians and supporters,

Welcome to the second edition of The Waterfront, iGEM Toronto's monthly newsletter! Each month we'll bring you a behind-the-scenes look at our lab work, updates on where we are at in the iGEM competition cycle, and our outreach events.

As we continue building our project, PetaBite, and representing U of T in the global synthetic biology community, we're excited to share this year's project, our latest milestones, and some upcoming events.

Introducting PetaBite

Every iGEM cycle starts with a problem worth solving. This year, ours is one of the most urgent environmental challenges of our time: plastic pollution.



Our project, PetaBite, takes aim at this problem using the power of a bacterial enzyme, PETase, capable of breaking down PET plastic found in

bottles, clothing, and packaging. Using PETadex, our openly accessible database built on the Logan Index's terabytes of PETase data, we're optimizing these enzymes to degrade plastic across a diverse range of environments.

University of Toronto Microplastics Conference: You're Invited!

The Microplastics Conference is landing this fall, and it is going to be big.



Initiated by Dr. Chelsea Rochman and in collaboration with the U of T Trash Team, iGEM Toronto and our partner groups across campus are kicking off a brand new Microplastics Conference this fall.

It is a full day event featuring sessions led by researchers, policy specialists, industry professionals and student teams from across the University of Toronto, and it is fully hybrid so participants can also join online for free.

Fill our Interest Form here (linked)
Cost: Free admission and free refreshments all day!
Location and Date: TBA



Meet our Keynote Speaker: Dr. Kara Lavender Law!

Our Keynote Speaker is a leading oceanographer whose research has shaped how the world understands plastic pollution, from how microplastics travel through oceans to what ultimately happens to them. With a PhD from the Scripps Institution of Oceanography at University California, San Diego and decades of work on global scientific panels and major research collaborations, Dr. Kara Law's keynote will give students an inside look at the research, the challenges and the future of tackling plastic pollution across science, policy and society.

What You'll Dive Into

- **Environment:** How microplastics move through freshwater systems, how they affect ecosystems and how researchers monitor and model their behaviour.
- **Health:** What current research suggests about microplastics in the human body, how exposure varies across communities and how social factors shape health outcomes.
- **Policy and Governance:** How governments, regulatory groups and communities are approaching environmental protection, monitoring programs and long term strategies for reducing plastic pollution.
- **Scientific and Community Solutions:** Innovations from engineering, biology and community initiatives that aim to reduce microplastic pollution and support sustainable change.
- **Student Research Posters:** A dedicated session showcasing emerging student work, with time to explore, ask questions and meet people across labs, disciplines and institutions.

If you want a chance to learn the science, explore real world impacts and connect with people working on microplastics from every angle, **fill out the interest form now**! A registration form will be available closer to the conference date.

Sponsors Highlight

Diamond Sponsor

Integrated DNA Technologies (IDT)

Gold Sponsor

Centre for the Analysis of Genome Evolution and Function (CAGEF)

Silver Sponsors

University of Toronto Department of Cells & Systems Biology and Human Biology

In-Kind Support

Twist Bioscience, New England Biolabs, SnapGene, BioRender

Team Achievement of the Month

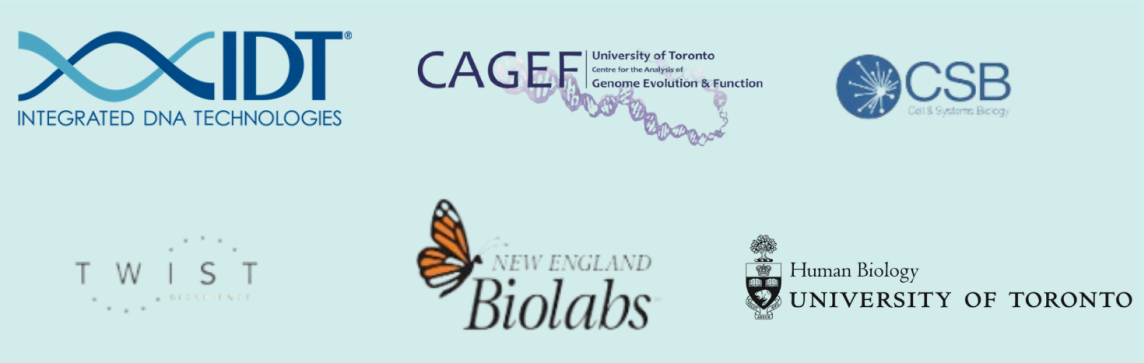
Silver Medal at the Tech Future Challenge

Congratulations to the Venture Team for earning Silver at the Tech Future Challenge in Calgary. This recognition reflects the incredible work being done to translate PETase from a research project into a scalable real-world solution.



Sponsors Spotlight

- ***Integrated DNA Technologies***
- ***Centre for the Analysis of Genome Evolution and Function (CAGEF)***
- ***University of Toronto Department of Cells & Systems Biology and Human Biology***
- ***Twist Bioscience***
- ***New England Biolabs***



Thank you for supporting innovation, research, and the next generation of synthetic biology leaders!

Looking Ahead

From wet lab's first full experimental schedule as a fully BME trained team to dry lab's expansion of PETadex to over 300 million enzyme candidates, the team has made tremendous progress this month. Hardware is entering the prototype stage, outreach continues to grow our audience through the Road to Jamboree series (check out our instagram!), Human Practices is laying the groundwork for the inaugural University of Toronto Microplastics Conference, and Venture is bringing home recognition on the national stage.

As these efforts continue to come together, we're excited to see PetaBite evolve from an ambitious idea into a project with real scientific, environmental, and societal impact. Thank you to everyone contributing their time, expertise, and enthusiasm. We can't wait to see you next month!

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