FOREVER OURS

Microplastics and PFAS
Where Science Meets Art

A Traveling Exhibit by Concerned Artists

The Exhibit

Fifteen New England artists have come together to create a traveling show about microplastics and PFAS. They have used their art in a compelling and aesthetic way to give the viewer another way to interpret the impact that plastics have on our environment. This innovative art, coupled with scientific explanations, helps to inform the public about how plastic is affecting our world.

Both microplastics and PFAS accumulate silently. Microplastics infiltrate ecosystems, where fish, birds, and mammals mistake them for food. PFAS are found everywhere in the land, air, and water. Our landfills are full of PFAS, where sludge filled with PFAS was promoted to farmers as fertilizer for their fields. Once applied to the land PFAS with its unbreakable bond of carbon and fluorine, infiltrates the flora which poisons any species that ingest it. PFAS in humans builds up in blood and tissues, and is linked to immune disorders, hormonal disruption, and certain cancers.

We often think of plastics and PFAS as convenient, temporary tools: a take-out container, a raincoat, a stain-resistant sofa. But once created, these materials outlive their use. We are told that plastic can be recycled, but this is a misleading story promoted by the plastics industry. From the start, plastics were engineered to be disposable: made thin, cheap, and weak, so it was always cheaper and easier to produce new plastic than to reuse it. The system was not built for sustainability: it was built to drive demand for more plastics.

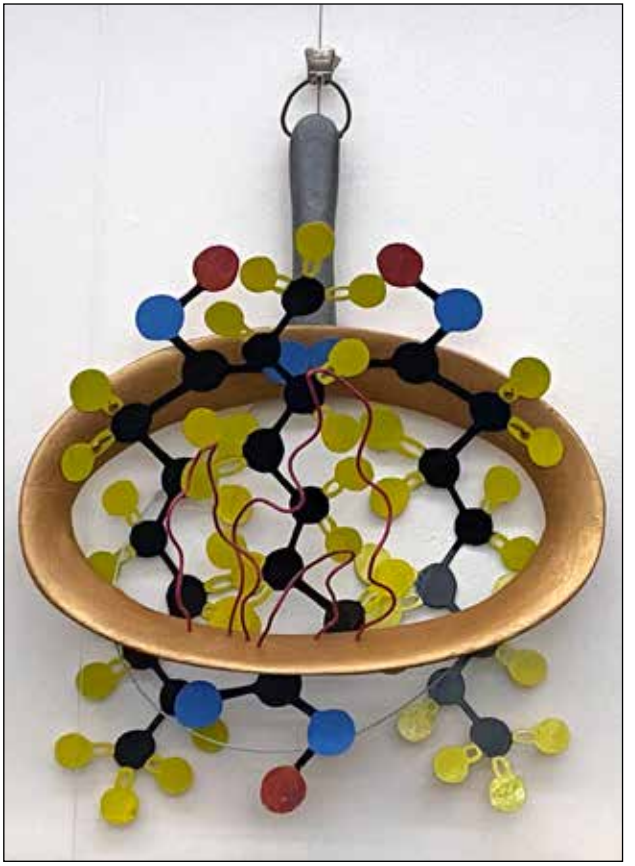
There is no easy way to remove PFAS once they are released. A few experimental technologies, such as high-temperature incineration or chemical breakdown in super-heated water, can destroy some of these compounds, but they are energy-intensive, expensive and unscalable. Worse, some methods may create new toxic byproducts.

Prevention, phasing out the use of PFAS in products, and stopping new contamination at its source, is far more effective than trying to clean up later.

Teflon Magic Pan

My sculpture depicts where it all started. Scientist discovered per-and polyfluoroalkyl (PFAS) by accident in 1938. This group of man-made chemicals resist breaking down due to the strong carbon-fluorine bond and it became the slipperiest surface in the world. In the 1960's Du-Pont developed this technology into Teflon, a very popular non-stick surface used in cookware, and now it can be found every-where. This 'forever' chemical is now proving to be a huge health problem that needs solving. My sculpture shows the chemical composition of PFAS in a frying pan on fire.

Marnie Sinclair



When The Tides Come In

Becoming aware of the waste problem, and plastic waste in particular, changed the focus of my paintings. Formerly I turned my back to a dump-ster and painted the view beyond it. Now I acknowl-edge the reality of "disposal culture" as part of the whole picture.

Jane Herbert

Plastic Man

The inspiration for this piece came from the 2024 Canadian documentary, Plastic People, which dealt with the current scientific research showing that microplastics and nanoplastics have seriously contaminated our blood and tissue, including our brains. When I worked as a clinical chemist I learned that there was a blood/brain barrier that does not allow large molecules and blood cells to get into brain tissue. It was a real bummer to learn that nanoplastics can cross the barrier and affect brain function.

Tom Mikulka

Geomembrane

Art can illuminate the hidden presence of PFAS, so-called "forever chemicals", in soil and water, transforming scientific data into visceral, site-specific experiences. In these works which originate at locations where contamination has leached into groundwater and lingered in the earth, artistic intervention becomes both testimony and warning. Through soil and water samples, the invisible yet toxic contamination seeps not only into ecosystems, but into communities and histories.

Susan L. Smith

Dark Future

The motivation for this print is the accumulation of deadly PFAS chemicals in our environment and consequently, in our bodies. This is not a reversible problem and we are poisoning our planet with these chemicals.

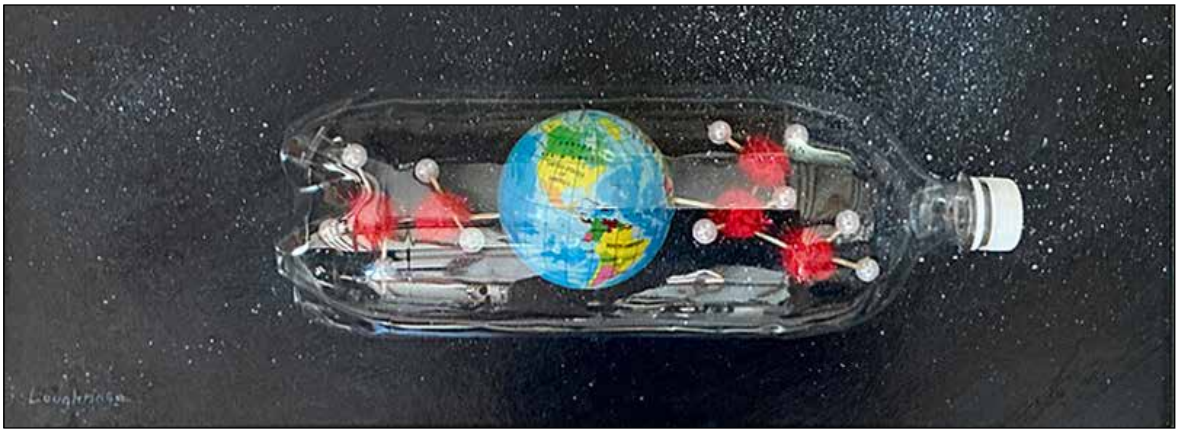
Tamar Etingen

Home Sweet Home

"Home Sweet Home" is my artistic representation of the destructive impact of microplastics on and in our earthly home, and literally ourselves.

Remembering how craftsmen used to construct beautiful wind-powered ships in glass bottles, I chose a plastic bottle to symbolize how mankind has entombed itself and plastic debris, surrounding and invading Earth and ourselves. I entitled this piece "Home Sweet Home" as an ironic looking back to simpler, less polluted days.

Sally Loughridge



Unlikely Universes

To green my studio practice, I devised a very low-tech system involving washing brushes in a metal cup and then pouring that colored liquid into an aluminum pan, where it then evaporates. As I worked on paintings for a show, some swirling, colorful drama was occurring in that pan that I was able to photograph. My images reminded me of the Hubble telescope photos of the universe. This in turn led me to think of the string theory of physics, where multiple universes exist at the same time. Since I was creating universes, why not populate them? We must stop putting microplastics into the water in our universe, on the only planet we have.

Ann Tracy

Chemical Tango

I picture Flourine as a femme fatale arrayed in a gossamer gown of yellow hue. She is highly unstable and known to explode at the lightest touch, yet willing to bond with elements up and down the periodic table. On her hand she wears an atom of hydrogen and her shoes sparkle with oxygen atoms. Those jewels make her slippery and impervious to water when she tangos with Carbon.

Flourine entwined with Carbon forms a tenacious bond – a "forever chemical". Today the offspring of the Flourine and Carbon coupling can be seen around the globe. Plastic wraps around our lives in products and packaging, water and food. Humanity is dancing a toxic tango lured by a fatal attraction to convenience.

Jane Herbert

Things You Can Do

• Choose loose items or in bulk, then store it all in reusable glass jars. Avoid plastic packaging.

• Choose powdered laundry detergent or Blueland Laundry Tablets (plastic free)

• Avoid laundry pods and sheets (these release PFAS instantly in water)

• Skip non-essentials (straws, plastic spoons, etc.)

• Use refillable water/beverage containers

• Choose natural fiber clothing over polyester/synthetics

• Recycle plastic bottles into clothing (Last Bottle Clothing)

• Choose glass over plastic bottles and jars

• White shrink wrap for boats can be recycled into building materials (Maine Mobile Shrinkwrap)

• Avoid face wash or toothpaste with microbeads. (If the ingredients label lists polyethylene or polypropylene, the item likely contains microbeads.) These tiny plastic beads go down the drain, eventually flowing to rivers, lakes, and the ocean. There they can be mistaken for food by fish and sea turtles — a dish that could be deadly.

Don't be fooled. 90% of plastics are not recyclable.

Progress Here in Maine

Maine became the first in the nation to ban the spreading of PFAS-contaminated sludge on Maine farmlands, to protect soil, food systems, and communities.

Now a proposed ban on the sale of PFAS-containing products is under consideration — one that will require public support to become law. These efforts depend not only on science and policy, but on people willing to raise their voices.

Exercising political will is part of the collective work of environmental progress where prevention, restoration, and responsibility go hand-in-hand.

Acknowledgements

We believe that a full understanding of our world requires both the lens of a microscope and the brush-stroke of an artist. By featuring art that explores the same topics as our research, we invite Shaw Institute visitors to engage with science through a creative lens, fostering a deeper, more intuitive connection to the education and discovery happening within these halls.

Dr. Charles Rolsky
Shaw Institute
Blue Hill, Maine

Marnie and Jane's exhibit was beautiful, thoughtful, educational, and inspiring towards a vision of a more enlightened relationship between humans and their natural environments.

Joshua A Hill, Rector
St. Alban's Church
Cape Elizabeth, ME