# TURI Grants

Each year, TURI provides grants to industry, small businesses, academic researchers, community organizations, and municipalities to support efforts to reduce the use of toxic chemicals. The annual cycle is based on TURI's fiscal year that runs from July through June. Typically, grant applications are available in April and decisions are made in August for the current fiscal year. **We encourage anyone interested in pursuing a grant to talk to us at any time.** We can help shape your idea and recommend partners to strengthen your application.

**Small Business Grants** provide funding to qualified small businesses in Massachusetts to change processes or replace toxic chemicals with safer alternatives.
*Contact Joy Onasch, joy@turi.org or 978-934-4343.*

**Academic Research Grants** provide seed funding to UMass faculty and graduate students to conduct research intended to help Massachusetts companies develop solutions for some of the more challenging uses of toxic chemicals.
*Contact Greg Morose, greg@turi.org or 978-934-2954.*

**Industry Grants** provide funding to qualified Massachusetts manufacturers to implement process modification or modernization opportunities for toxics use reduction.
*Contact Joy Onasch, joy@turi.org or 978-934-4343.*

**Community Grants** are available for community organizations and municipal departments to create and promote healthier communities by raising awareness and educating people about safer alternatives to toxics.
*Contact Felice Kincannon, felicek@turi.org or 978-934-3346.*

## TURI Grant Projects – Fiscal Year 2020

### Small Business Grantees

**The Gym Club Gymnastics Center of Gardner** is replacing foam pit cubes containing flame retardants with cubes not containing flame retardants. Flame retardants are endocrine disruptors and can affect hormonal development.

**Outstanding Bath Refinishing of Milford** is purchasing equipment and an alternative paint stripper that does not contain methylene chloride, a toxic chemical that is banned in paint stripping products for consumer use as of November 2019. The company will purchase an air-operated drum pump and methylene chloride-free paint strippers for testing.

**Workshop Auto of Lowell** is installing an engine and parts washer that will reduce the use of solvents such as acetone, methanol, and toluene, toxic chemicals that can cause serious acute and chronic health effects. The business will work with an equipment company and the TURI lab to identify a safer aqueous alternative to use in the machine.

### Academic Research Grantees

**Assistant Professor Wan-Ting (Grace) Chen of the Department Plastics Engineering at UMass Lowell** is partnering with **Raytheon Company** to find a safer alternative for methylene chloride, a toxic chemical used to remove chemical agent resistant and conformal coatings. The team will identify alternative solvents and test their performance.

**Professor Ramaswamy Nagarajan of the Department of Plastics Engineering at UMass Lowell** is partnering with **Bradford Industries in Lowell** to find and evaluate safer solvent blends to replace the use of the toxic solvent dimethyl formamide (DMF), a chemical designated as a TURA Higher Hazard Substance. During the last two years, the research team identified safer alternatives with performance comparable to DMF for a new product application. This year, the team will evaluate coating quality and explore solvent combinations for three of Bradford's current products.

**Assistant Professor Hsi-Wu Wong of the Department of Chemical Engineering at UMass Lowell** is continuing to collaborate with **Waters Corporation in Milford** to identify and test the performance of safer solvents to replace the toxic chemical acetonitrile used in liquid chromatography applications. In this phase, the team will test safer solvents for mass spectrometry detection of dye, food, and environmental compounds.

## Industry Grantees

**Bird Precision of Waltham**, a precision orifices and glass jewel manufacturing plant, is eliminating the use of trichloroethylene (TCE), a solvent listed as a Higher Hazard Substance in Massachusetts. The company is purchasing new drying equipment and working with the TURI lab to refine a new cleaning process.

**CD Aero of New Bedford**, a leading manufacturer of film capacitors for industrial, medical and specialty applications, is replacing a vapor degreaser that uses n-propyl bromide (nPB). The company will work with the TURI lab to verify safer and effective cleaning solutions to use in the new equipment. nPB is listed as a TURA Higher Hazard Substance and is "reasonably anticipated to be a human carcinogen" by the National Toxicology Program.

**MSI Transducers Corp. of Littleton**, a designer and manufacturer of acoustic transducers for commercial and defense applications, is modifying their injection tooling process to reduce the use of lead and lead waste. The new configuration of the tool is also expected to improve yield and efficiency.

**Plenus Group Inc. of Lowell** is working with UMass Lowell Professor Boce Zhang's lab to research and evaluate alternatives to sodium hydroxide, a corrosive chemical that can cause irritation to the eyes and skin. If a complete substitution is identified, over 14,000 pounds of sodium hydroxide could be reduced, resulting in improved worker safety and significant cost savings.

**River Street Metal Finishing of Braintree**, a provider of precision metal finishing, is reducing the use of sulfuric acid, a corrosive toxic chemical that causes direct effects ranging from irritation to burns on the skin, eyes, and respiratory tract. The company will purchase a filtration system for three aluminum anodizing process tanks, which will filter the sulfuric acid and allow it to be reused.

**Riverdale Mills of Northbridge**, a manufacturer of welded wire mesh fabrics, is purchasing equipment to reduce the use of toxic chemicals in their manufacturing process by reducing hydrochloric acid drag-out from a pickling tank. Installing this equipment will reduce the use of hydrochloric acid, sodium hydroxide, and ammonium hydroxide.

## Community Grantees

**Clean Water Fund of Boston** is sharing information with Massachusetts residents about the prevalence of toxic flame retardants and polyfluoroalkyl substances (PFAS) in everyday products and communities. PFAS has been linked to kidney cancer, low infant birth weight, and a range of other diseases. The project team will conduct workshops, write articles and brochures, and share information in public forums and with members of the Clean Water Fund and the Alliance for a Healthy Tomorrow network. Clean Water Fund's communications will include information on safer alternatives.

**Don't Take That Receipt! of Holyoke**, a public health and environmental justice group of youth and adults, is building upon a previous project that provided information about BPA in cash register receipts and safer alternatives. The project will provide information about BPA in a wide variety of other thermal papers, including sticky labels and tickets used in fast food, shipping, delis, pill bottles and medical test labels. The project team will visit businesses to provide information about shifting to phenol-free thermal papers, create a video about the risks of thermal paper, and share practical tips for reducing exposure.