

## Academic/Industry Research Partnerships

The Toxics Use Reduction Institute (TURI) provides seed funding for UMass faculty and their graduate students to conduct research related to toxics use reduction. Research projects are intended to help Massachusetts companies develop solutions for some of the more challenging uses of toxic chemicals – therefore we seek the involvement of Massachusetts companies as industry partners for these academic research projects. The funding amount is typically \$20,000 - \$25,000 and covers research conducted in one academic year. Academic researchers benefit from solving real world problems through their research and provide invaluable training for next generation engineers and scientists. Industry partners benefit by having highly skilled researchers work on their toxics use reduction problems at no cost.

### Research Focus Areas

Identifying industry research needs that can result in important innovations for industry sectors of particular relevance to Massachusetts is an important service TURI provides when choosing academic research projects to fund. TURI therefore seeks proposals from UMass faculty from any of the five campuses on projects of particular relevance to Massachusetts companies, including research and development of new processes, materials and/or chemicals that can significantly reduce or eliminate the use of toxic chemicals for specific applications. Each year TURI requests research ideas from Massachusetts companies.

TURI is particularly interested in identifying research opportunities associated with the development of safer alternatives to chemicals that have been designated as **higher hazard substances** (HHS) under TURA. The current list of HHS includes:

- Cadmium and its compounds
- Trichloroethylene
- Perchloroethylene
- Formaldehyde
- Hexavalent chromium
- Methylene chloride
- 1-Bromopropane (n-Propyl bromide) (nPB)
- Hydrogen fluoride
- Cyanide compounds
- Dimethylformamide (DMF)



UMass Lowell students prepare thermosetting resin samples that do not use formaldehyde, a known human carcinogen

## Company Participation

---

TURI requests that companies interested in participating in this program agree to provide the information outlined below so that we can include their research requirements in the next Request for Proposal (RFP). TURI publishes the academic research RFP to UMass faculty in April of each calendar year. Funded research is conducted between September and July.

TURI also welcomes participating companies to review any submitted proposals that address your specific research project.

Information TURI may request from Massachusetts companies thinking about partnering with academic researchers includes:

- The toxic chemical to be addressed
- How the toxic chemical is currently used in your facility (i.e. specific application)
- The desired functionality/properties provided by the chemical
- The quantities of chemical used in your facility (i.e. per product, per batch, etc.)
- Toxics use reduction options for this chemical your company has identified and evaluated to date
- Research assistance your facility seeks from UMass researchers , such as:
  - Identification of new chemicals/materials that may be used as a substitute
  - Assistance with product reformulation
  - Testing/evaluating a revised process or product
- Testing methods, customer and industry requirements for new process/product solutions
- Assistance your company could provide to UMass faculty during their research efforts, such as:
  - Material samples
  - Access to production equipment
  - Access to test equipment/environment

**For more information contact:**

Pam Eliason  
Industry Research Program Director  
978-934-3142  
pam@turi.org



UMass Lowell student describes his research in lead-free nanosoldering for electronics at TURI's Greener Materials Research Symposium, May 2015