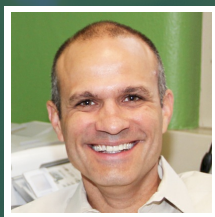


Sustainable Polymers: Greener Plastics, Cleaner Water



Marc Hillmyer
Presidential McKnight Endowed Chair

CURRENT RESEARCH

New kinds of polymers can create sustainable plastics and purify water

Safe and durable, plastics have long pervaded our everyday lives and facilitated convenience. However, as resources are depleted and heaps of trash accumulate, plastics are becoming more expensive and unsustainable. What if we made plastics greener -- producing them from plants instead of oil? Instead of harmful chemicals, what if we used natural compounds? What if plastics could be composted, recycled, and used for energy? Marc Hillmyer, Presidential McKnight Endowed Chair at the University of Minnesota, is developing new polymeric materials that can make sustainable, environmentally friendly plastics. It turns out, similar kinds of advanced polymers can also help purify water through advanced membrane technology. This allows Professor Hillmyer to leverage his expertise to tackle two of the greatest environmental challenges facing society today.

The big challenge that comes with creating polymers is to reconcile its chemistry implications with its economical applications. To reduce environmental harms and increase economic benefits, Professor Hillmyer hopes to derive polymers from waste biomass, and eventually be able to produce compostable plastics and purify industrial waste into drinkable water. With a strong emphasis on the design, synthesis, and characterization of new macromolecular materials and on the development of sustainable polymers from renewable resources, the Hillmyer Research Group has also established several formal cooperative relationships with other research groups at the University of Minnesota. This extensive infrastructure and collaborative nature of the faculty enables a dynamic research environment, and to this advantage Professor Hillmyer hopes to accelerate breakthroughs in the...

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AFFILIATION

 University of Minnesota

EDUCATION

- Ph.D. in Chemistry, California Institute of Technology
- B.S. in Chemistry, University of Florida

AWARDS

- McKnight Presidential Endowed Chair, 2015
- Carl S. Marvel Creative Polymer Chemistry Award (POLY division of the American Chemical Society), 2011
- Fellow of the American Association for the Advancement of Science (AAAS), 2009
- Packard Fellowship for Science and Engineering, 2000–2005
- Camille Dreyfus Teacher-Scholar Award, 2000–2005

RESEARCH AREAS

Environment, Oceanic, Chemical, Agriculture

FUNDING REQUEST

Your contributions will support the continued research of Dr. Marc Hillmyer and his research group at the University of Minnesota as they develop new polymeric materials to produce sustainable plastics and purify water. Donations will help fund the \$100K/year required to support one researcher in a team of 25; partner with the Hillmyer Research Group as they derive translatable solutions with sustainable polymers that will benefit both the environment and the economy.