

Eastern Michigan University Professor to Research

Safer Coatings for U.S. Military

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YPSILANTI, MI – Vijay Mannari, a professor of polymers and coatings at Eastern Michigan University (EMU), has been awarded a \$529,000 grant to develop environmentally responsible, high-performance coatings for the U.S. military.

The Strategic Environmental Research Development Program (SERDP) advisory board approved Mannari's research proposal "Non-Isocyanate Polyurethane Platform for Sustainable and Advanced Rain Erosion-Resistant Coatings." The research program is expected to start this spring.

SERDP is a federal multi-agency organization, comprised of the Department of Defense, the Department of Energy and the Environment Protection Agency, that funds proposals selected from among industry, academia and federal laboratories.

"This award not only recognizes our capabilities for advanced research and development in coatings, but it will also provide opportunities for me and our students to explore new frontiers in developing greener and safer coating materials," said Mannari. "Our research aims at replacing these toxic coatings with safer alternatives, without compromising performance.

Currently, the Department of Defense uses polyurethane coatings for many of its applications because they're durable and perform well. However, the polymers use a group of chemical compounds called isocyanates, which are toxic and hazardous for human health and safety. This is why there is a lot of interest across the globe, to limit or eliminate the use of isocyanates.

By leveraging alternative chemistry and customizing formulations, Mannari's research will not only develop isocyanate-free polyurethane coatings, but these coatings will also have significantly lower VOCs and will cure in a shorter time compared to coatings currently being used in industry.

Mannari joined the Polymers and Coatings Program at EMU in 2002 and has established a rigorous research program primarily focusing on environmentally friendly polymeric materials for development of advanced coatings. He has also received approximately \$2.3 million in external funding over the past few years.

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