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Strategies for restoring the performance of Post-Consumer plastics

Abstract:

In this presentation, I will present the challenges associated with the recycling of mixed polyolefins as well as PET. I will outline our innovative strategies aimed at improving the recyclability and enhancing the properties of these plastics. By leveraging advanced compatibilization techniques and chain extenders, we have developed solutions to overcome these hurdles. Our goal is improving the recycling process and sustainability by restoring the quality of recycled plastics, thereby supporting a more effective and environmentally friendly approach to plastic waste management.

Biography

Muhammad Rabnawaz is a professor, educator, author, inventor, and entrepreneur. Since 2016, he has been a professor in the School of Packaging at Michigan State University (MSU). He has developed and taught three advanced-level courses for MSU students and two short online courses for industry professionals on packaging sustainability. He has filed over 45 patent applications and has been issued nine patents in sustainable packaging, recycling, and multifunctional coatings. In addition, he was awarded the College of Agriculture and Natural Resources (CANR) Faculty Laureate (2022), MSU Innovator of the Year Award (2021), the NSF Career Award (2021), and Senior Member of US National Academy of Inventors (2023).