

## Statement of Research Interest

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- My Research Focuses on the investigation on the spacious range of topics related to Primary, Secondary, Tertiary, and Quaternary Scrap plastics behaviour and also to differentiate this behaviour with different categories of polymers as in this day and age Research leads to developments of new polymer alloys and blends for use, so we have to focus on that as well. But if we talk about Plastic Waste Management in General we will find the majority of waste being comprises of commodity plastics and polyolefins play a majority of role in that as this is the group targeted in packaging in Commodities.
- I am Particularly Interested in Research and exploration of different ways to manage plastic scraps and to meet the maximum sustainable parameters as much as I can by in depth study in Primary, Secondary, Tertiary and Quaternary Stages of Polymer Scrap Recycling. As in my final year Me and my Team worked on Project of similar topic of Design of Paver Block Tiles from scrap plastics with ribs design in solid works and it was all about Primary and Secondary Recycling and to develop a value Creation through Business Model for clean and segregated sector of primary plastic scraps and in that we worked on to meet maximum sustainability parameters as primary stage of scrap is quite flexible in nature also we done the micro analysis of different standards on our product with latest stimulated software of Ansys . So my involvement in this project of producing Paver Blocks from scrap plastics yielded us a First Place winner in the College. And also after that experience we participated in an International Competition "Make The Case" and awarded as Top Business Category Winner in show casing High impact initiatives to reduce plastic waste and also we studied on development of market oriented Business Model for sustainable plastic waste management. Also We collaborated with "Shayna Eco unified" company who are in Marketing and Sales of Paver block and tiles made from scrap plastics in North India.
- My Future Research will focus on More exploration of Value Recovery from plastics waste and development of Business Oriented methods with maximum achievement of Sustainability parameters. I shall focus on value recovery through Hydrolysis, Glycolysis and Ammonolysis which are thrust points of Tertiary recycling and on Quaternary stage value recovery as in that the land filling of ash residue is a thrust challenge now.
- In context of (1) Product Remoulding (2) Energy Recovery (3) Incineration and Residual Management, I will study the Relevance of value parameters that what is the maximum peak we can achieve in each section/stage of plastic Recycling and what can I do to innovate to achieve beyond more.
- I am much curious to work in this thrust Engineering Topic and real world challenge of sustainable plastic waste management. As we all know that the plastic is a material which is discovered for the applications to last for centuries but unfortunately it is used in applications which lasts for minutes.