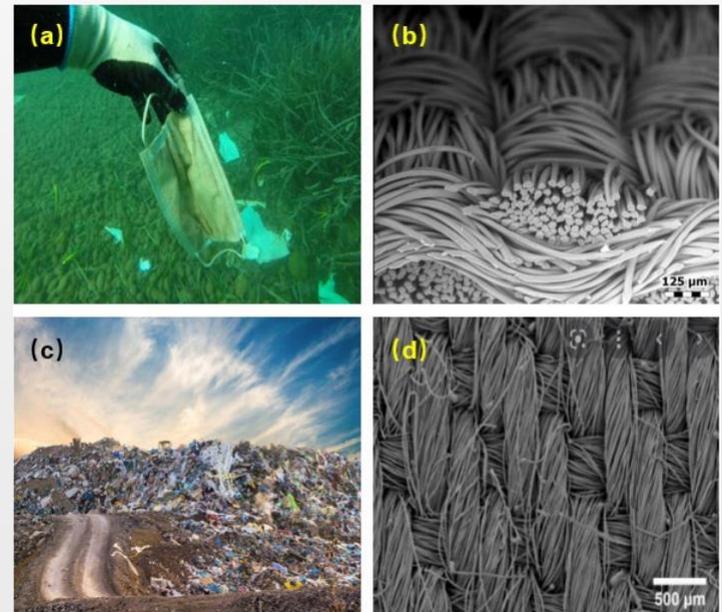


Nanomodified Cementitious Composites Incorporating Waste Polymer Microfibers for Durable and Environmentally Friendly Infrastructure

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- There is an **urgent need** to dispose the vast quantity of waste masks during the covid-19 pandemic
- The current approach of **landfilling** can cause severe environmental problems since the main chemical composition of waste face masks is PP, which is extremely difficult to be naturally degraded.





Project Goal and Objectives

- **Goal:** fabricate nmFRCCs that not only **upcycle two types of solid wastes** (used masks and textiles) but also achieve a **desirable alternative** to commercial PP microfibers for concrete industry
- **Objectives:**
 - 1) **convert** waste masks/textiles to fiber products
 - 2) **conduct surface modification** on WM/TFs by nanomaterials (i.e., GO and nano clay)
 - 3) **characterize** the hydration mechanism at the interface between the nanomodified WM/TFs and the cementitious matrix

