RGE-NTU SusTex Achieves Poster Wins at ISPAC 2025 – Congratulations to Our Researchers

The RGE-NTU Sustainable Textile Research (SusTex) team was honoured at the International Symposium on Polymer Analysis and Characterization (ISPAC) 2025, with SusTex researchers recognised for advancing sustainable textile processing and recycling.

Recognition for Research Excellence: Poster Award Winners

Dr Geok Leng Seah (Zoey) was awarded the **Most Popular Poster Award** for her work developing a green and versatile advanced oxidative system to bleach and recover cellulose from coloured textiles. Her poster, *Eco-engineered Oxidative Pathway to Enable Circularity of Cellulose from Textile Waste*, presents a dual-output strategy for processing cotton-rich textile waste that maximises resource recovery while minimising environmental impact. This approach offers a sustainable pathway to advance textile circularity and cellulose utilization.

Dr Nupur Gupta was awarded the **Best Poster Award** for her research on selective depolymerization of polycotton to enable separation of blended fabrics for more effective recycling of textile waste. Her poster, *Advancing Chemical Recycling of Mixed Textile Waste: Challenges in Separation and Characterization*, highlights a method to recover over 95% of cotton from highly pigmented 50/50 polycotton textile waste. The process selectively breaks down polyester, allowing dyes and pigments to be removed, and yields high-quality cotton suitable for reuse. These findings offer valuable insights toward improving 'fiber-to-fiber' recycling of blended fabrics.

Dr Ying Siew Khoo also delivered a well-received **Oral Presentation** on a cascading *oil and water phase separation system for efficiently separating cotton and polyester in blended textiles*—offering a fresh perspective on how textile blends can be processed and recovered more effectively.

With global fiber production reaching 124 million tonnes in 2023 and Singapore generating over 254,000 tonnes of textile and leather waste in 2022, sustainable recycling solutions are more urgent than ever. Blended and cotton-rich textiles present particular challenges, requiring advanced chemical methods for effective separation and reuse. RGE-NTU SusTex is addressing these challenges by developing innovative methods to recover valuable fibers, contributing to a more circular and sustainable textile economy.

We gratefully acknowledge the support of the Royal Golden Eagle (RGE) Group, whose funding and collaboration have been essential to driving the progress of RGE-NTU SusTex.

From left to right: Dr Ying Siew Khoo, Dr Geok Leng Seah (Zoey), Dr Nupur Gupta, and Associate Professor Dalton Tay.

From left to right: Associate Professor Dalton Tay (NTU), Dr Jaroslav Stavik (RGE), Dr Yin Ying Hng (RGE), and Dr Poernomo Gunawan (NTU).