Editorial

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Special issue on industrial membranes

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Chemical separations account for 6% of the total US energy consumption and contribute substantially to the global CO₂ emissions. Emerging countries are transforming their economy, which was essentially agricultural until a few years ago, into a modern industrial one. As a result, one major challenge for mankind, today, is to develop sustainable, large scale separation technologies. Since the late 1970s, membrane science has been helping address this challenge. Forty years ago, *Monsanto* launched the first industrial membrane separation plant, which used hollow fibers made of polysulfone to purge hydrogen in the Haber process. Since then, membrane science has made

substantial progress: synthetic chemistry, polymer science and engineering and advanced modeling helped design better membrane materials and processes, which allowed membrane technology to become competitive with distillation and solvent absorption.

This special issue, which includes nine contributions from all over the world, is intended to celebrate these accomplishments.

As an Associate Editor of *Journal of Polymer Engineering*, I would like to thank all of the authors for their contributions to this special issue. Also, I take this opportunity to thank the journal's editorial office for the valuable help in processing the manuscripts received for this special issue.