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Foreword

This is the first special issue of the Environmental Chemical Engineering volume of the Chemical Engineering Journal. The papers included reflect the diversity of research in environmental process engineering which is in progress around the world. Treatment and separation processes are an important theme and in this issue there is a focus on the use of recycled or renewable materials as separation media for treatment processes. We include papers which describe research on the characterisation of a range of such materials including adsorbents derived from tyres and sawdust, impregnated clay minerals, pith, and fungal biomass. There is also an important paper demonstrating the vital synergy between new cleaner synthesis techniques for organic compounds from renewable resources and their separation. This is very much within the requirements of waste reduction and the move to clean synthesis methods which reduce reliance on treatment technologies. Research into the management of existing processes is another novel theme included in this issue, examining ways of incorporating greater use of recycle into flowsheet options. The paper by Stevens et al. reviews developments in liquid recycling methods within environmental separation processes to achieve reductions in environmental impact. Finally, we include paper describing a novel fluidised bed reactor concept for the treatment of mixed municipal, waste and a paper describing the characterisation of leachate effluent. Thus in this inaugural special issue, the diverse and novel nature of environmental chemical engineering processes is underlined. We, therefore, encourage submission of manuscripts covering a wide range of environmental chemical engineering themes, including clean synthesis and technologies, waste minimisation, processing with renewables, treatment operations and techniques for solids, liquids and gases.

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