

## IGCW 2017: Workshop on emerging tools and technologies

In continuance of the series of events scheduled at the '5th Industrial Green Chemistry World' (IGCW) from October 5-6, 2017 at Ramada Powai Hotel and Convention Centre, Mumbai a 'Workshop on Emerging Tools and Technologies' will be held on October 5, 2017 (11:30 to 13:00 hrs).

IGCW 2017 will be broadly held on the theme 'Profitability from Industrial Green Chemistry and Engineering.'

### Sustainability and the chemical industry

The chemical industry plays a fundamental role in sustaining the world economy and underpinning future technologies and scientific advances in new materials, less toxic products, renewable energy sources, environmental protection, industrial processes with energy efficiency and renewable raw materials.

Global chemical enterprises face complex challenges on many fronts: manufacturing, research & development (R&D), supply chain management, industry consolidation and ever increasing customer, regulatory and sustainability pressures.

Across the chemical value chain these trends are pushing for newer operating and revenue models to be able to manage the risks emanating from supply chains, markets and customer demands. In its quest for operational excellence the chemical industry has invested in a host of green chemical and technology platforms, systems and tools to rationalise cost structures and enable sustainability in manufacturing.

Green Chemistry and Engineering



(GCE), initiated in the 1990s, is providing environmentally suitable solutions for sustainable development. In the last decade, GCE have advanced research and technology for a wide spectrum of chemical products. Many of these technological advances are likely to rewrite the fundamental understanding of many businesses.

### Digital technologies

The emergence of digital technologies is shaping present business models in diverse and unexpected ways. The present focus on sustainability in manufacturing is being driven by the way "The Internet of Things (IoT)" technologies and devices are being deployed in manufacturing plants. IoT holds immense promise to rationalise and optimize manufacturing systems, enhance quality, reduce waste through widespread use of data analytics and other digital technologies.

The workshop will bring forth synergies between physical/chemical technologies with digital IoT technologies and how such integration is likely to shape the practice of GCE and enable sustainable chemical manufacturing.

### Zero discharge systems

Increasing demand on natural water resources, and unabated pollution

posed by industrial discharges into the environment, is making it necessary to implement Zero Liquid Discharge (ZLD) systems in industrial wastewater treatment plants. ZLD systems fill the gap for industrial dischargers who face unachievable standards and who would like to reduce the uncertainty on future limits. Optimization of wastewater treatment plant, with implementation of a zero discharge system, is a growing area of science.

The concept of Zero Solid, Liquid and Gas Discharge (ZSLGD), which theoretically means no discharge of any kind of pollutants into the environment, aims to eliminate discharges to the aquatic environment, recycle & reuse all possible solid & liquid process wastes, and reduce air emissions to the lowest possible quantity and toxicity.

The economic and regulatory climate globally as well as in India are market drivers for zero discharge or near zero discharge technologies to continue to grow rapidly.

The proposed workshop aims to evaluate technologies in ZSLGD systems with digital tools and other innovative technologies and deliberate on how such integration is likely to shape the reduction of energy consumption, elimination/reduction of wastewater, contaminated waste/sludge and toxic gaseous discharge for sustainable chemical manufacturing.

### Participation

The participation focus for the event will be senior personnel from R&D, R&T, production, operations and environmental health & safety.