EVENT

Latest trends in green chemistry and technology highlighted in Mumbai meet

fuids, micro-reactors, recyclable enzyme

Expanded and broader coverage



Mr. Ravi Raghavan, Editor, Chemical Weekly, lighting the lamp



Prof. James Clark, Green Chemistry Centre of Excellence, Inaugurating the exhibition

CASE STUDIES

Novel approaches to developing cleaner processes

maceuticals and the speciality & fne Lyrica,

The Pfizer experience

Dr. Peter Dunn, Pfzer Green Che-

duct – was as high as 86, it was diffcult

Sustainable development methodology

Front end	Back end
(Maximise atom efficiency)	(Prevent/reduce pollution & waste)

was signifcant, but the undesired en

Process intensification

The choice of process fnally ad

The production process was fne-

chemistry, process intensification, new

- aqueous effuents, soiled organic

Green chemistry: one part of sustainability initiatives

ment, crystallization & milling;

Eco-designed C-Glycoside

frst eco-designed C-Glycoside using

The synthesis of the frst beta-C-



Dr. M.G. Palekar

purification of intermediates &

Key role of catalysis

(Vogel Business

CHF

Technology

portois for science

Dr. Raksh Vir Jasra

exchanged zeolites as catalysts, sol

facture of fne chemicals. He provided

EVALUATING PERFORMANCE

'New paradigms needed to measuring greenness'

hydroxide, along with significant sol

Novel green metrics

We need to define greenness better. A sis shifting from effciency, to one of

Catalytic options

vents. "If you have to oxidize do it in

critical fuids, ionic fuids etc. "How

a new Sertralin process of Pfzer where

that while enzymes are biodegradable,

IGCW 2011

high regio-specificity, they have limita

gy. "Enzyme immobilization is the ans-

Enzyme Aggregates (CLEA), which is

seemingly effcient process with 90%

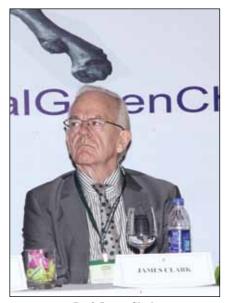
E Factor of 40% and atom utilization





Dr. John C. Warner

begins with science fction. "Innova tion happens not within the feld of fo



Prof. James Clark

Taking ideas to the marketplace

commercialization challenges of green

with incomplete material characteriza zation, feld-tested proof-of-utility and

'Innovation begins with science fiction'

Chief Technology Offcer, Warner Bab



Mr. Nitesh Mehta

'Factor in endocrine disruption'

Sustainability by design

pointed out that chemical hazards must

upon falsifed assumptions and reliance

Poor process es?

ways not refected in current health

silico in vitro

measure specific impacts. "LCA also identifies trade-offs, hot spots and op portunities for resource optimization. It

BIO BASED CHEMICALS

'Transition from a fossil- to bio-based economy will lead to profound shifts in industry structure'

converted through enzymes/microon the challenges of fnding market ac



Multiple alliances emerging

Market potential

a size of about €104-bn by 2012 and to around €264-bn by 2017, with their

Carbohydrates to platform chemicals

Drivers for innovation changing

zero discharge, high feed & product fexibility and more than 80% carbon

FOLLOWING THE LEADER

Global regulatory trends define future course

Chemical Weekly,



He emphasized the need for tech

Short-sighted view of treaties

classification and labeling he said, "In

India mainly address site-specifc is

the regulation. "REACH is hazard- and "Regulations driving innovation"