

## Opening Address

### Green Chemistry – Theory and Practice

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The history of protecting human health and the environment has been a constant striving to minimize risk. While it is understood that risk is comprised of the elements of hazard and exposure, nearly all of the approaches to risk minimization have focused on reducing exposure. As we move from treatment and control techniques to prevention and avoidance technologies, it is also a natural part of the evolution to move from simply exposure minimization to the reduction of intrinsic hazard. Green Chemistry has sought to shift environmental protection from merely addressing the conditions of risk to changing the inherent nature that causes the risk. The results have been remarkable. The results have shown that not only can Green Chemistry eliminate mil-

lions of pounds of hazardous substances from ever being used or generated, it can also do so in a profitable manner. When protection of human health and the environment becomes economically profitable that provides a competitive advantage, it changes the normal equation of dealing with environmental issues. In order for the potential of Green Chemistry to reach its potential, government, industry and academia need to work together to allow the needed research, development of this new area.

**Keywords:** Green chemistry; prevention and avoidance technologies; protection of human health; risk minimization

## FECS Lectureship

### By Browsing Genomes

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The pathways for metal uptake, release and homeostasis can be figured out for the various living organisms. Progress has been made on the metabolism of copper and, to less extent, of zinc.

Putative proteins related to the above processes have been selected and expressed in a high throughput fashion. For some proteins the solution structure could be obtained by

NMR and the protein-protein interaction were investigated in order to understand the cell process.

Copper regulation varies among eukaryotes, gram positive and gram negative bacteria and within bacteria of the same class.

**Keywords:** Genomes; living organisms; metal ion homeostasis; metal uptake; putative proteins