11th Annual GC3 Innovators Roundtable Session Proceedings

Hosted by Seventh Generation in Burlington, VT

May 25th, 2016

SESSION IV

Accelerating Green Chemistry at a Global Level: Building International Collaborations

Petra Greiner, Umweltbundesamt Federal Environment Agency, Germany
Avtar Matharu, University of York, UK
Nitesh Mehta, Green ChemisTree Foundation, India
Ken Geiser, University of Massachusetts Lowell *(moderator)*

This session explored the status and role of international initiatives in green chemistry and how greater global collaboration can accelerate growth of green chemistry in research, education, and industry. Petra Greiner discussed how the German government is initiating an International Sustainable Chemistry Coordinating Center (ISC3) to build greater connections and understanding among green (or sustainable) chemistry efforts globally. She discussed the need and opportunity to link sustainable chemistry to global initiatives. The ultimate goal of these efforts should be a "chemiewende" – analogous to the "energiewende" or "energy turn," the German major policy and market effort to move towards sustainable energy.

Avtar Matharu discussed York University's efforts to build connections globally between researchers as well as to build a new generation of practitioners in academia, government, and industry that can accelerate green chemistry. He discussed the Global Green Chemistry Research Network (G2C2) and the Network of Early Career Sustainability Scientists and Engineers (NESSE) as models for global collaboration that bridge knowledge, increase the number of practitioners, and build partnership at a global level.

Nitesh Mehta discussed a number of efforts in India to engage industry, government and academic stakeholders to build a green chemistry movement. He noted various approaches taken including regional workshops with small- and medium-sized enterprises (SMEs), discussions for corporate decision-makers on green chemistry investment, meetings with local pollution control boards, and trade expos to connect green chemistry needs to solutions. He discussed a number of barriers to green chemistry as well as potential drivers.

KEY TAKEAWAYS

Opportunities for Safer Chemicals and Products:

- To grow sustainable chemistry globally it should be linked to the UN Sustainable Development goals, particularly the goal of ensuring sustainable consumption, so that it is viewed as critical to achieving sustainable development.
- Take advantage of voluntary and globally binding instruments to accelerate the growth of sustainable chemistry.
- Make global connections to inspire action at home.
- Engage multinational companies more to drive green chemistry in developing countries.
- Create better and more effective supply chain messages about green chemistry so that companies in developing countries may be able to distinguish themselves in the market for their green chemistry efforts.

Key Drivers for Safer Chemicals and Products:

- Increasing worker recognition of environmental health and safety rights, which may drive demand for safer chemicals in the workplace.

Challenges for Implementation/Lessons Learned:

- Lack of a link between academic research and commercialization.
- Lack of a long term investment view and policy incentives.
- Large growth in green chemistry centers in China in recent years is well funded, but not translating research into action.
- There are not enough clear demands from consumers or support to companies to implement green chemistry changes.