

# Institute Lecture

## Innovations for a Sustainable World - A Journey from Lab to Market

**Dr. Samiran Mahapatra**  
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Unilever R&D Bangalore



9th February 2016, Time: 6.15 PM, Venue: L-10

### Abstract

Across the World, we face new and bigger challenges. Nearly 800 million people are without access to safe drinking water and over 2 billion without access to proper sanitation. More than 2 million children die each year from preventable diarrhoeal disease. One in ten adults is obese while almost 1 billion go hungry. Climate change is causing extreme weather conditions and changes to the seasons. Over a billion people live in water-scarce areas. Demand for food is increasing to feed a growing population.

Governments struggle to agree and implement global solutions on climate change and human development. At Unilever, we believe the world cannot wait, the urgency is now and that business and brands have to be part of the solution. So we have introduced an inspiring purpose for our times - to make sustainable living commonplace. We have made this our purpose because we believe that it is possible for 9 billion people – the world's population 30 years from now – to live well and live within the natural limits of the planet. We believe we can only achieve the better future we all want if we make sustainable living the new social norm.

We launched our ambitious plan in 2010 that sets out how we intend to grow and prosper in a world where water will be scarce, energy expensive, food supply less secure and where we will pay for the carbon we emit. It has three big goals: (i) Help more than a billion people take action to improve their health and wellbeing, (ii) Halve the environmental footprint of our products, and (iii) Enhance the livelihoods of millions of people in our supply chain.

As a specific example of innovation for sustainable world, I will talk about a fairly recent innovation from India in the area of providing safe drinking water ('Pureit') and how the team developed science insights into technology, then a long journey to the product design and finally to market. The development of Pureit goes back almost 15 years and started with a big challenge: to make a device that assures 100% protection from all water-borne diseases at a cost of less than one Rupee per day. It should work without electricity and pressure from piped water.

### About the speaker

Dr. Samiran Mahapatra has 19 years of experience in research, development and innovation management. He works seamlessly both at science and business end of the R&D spectrum. His expertise includes open innovation, water purification and smart materials.

Dr. Mahapatra joined Unilever R&D as Senior Scientist in 1997 and is now heading Open Innovation in Unilever South Asia. He is responsible for building Unilever's Open Innovation capability in the region. He has established partnerships with several Indian academic institutes (including IITK) and contributed in building global 'Science Grid'.

Dr. Mahapatra has worked several years in developing innovations for drinking water purification. He helped the launch of Unilever's Pureit water purifier, which gives water 'as safe as boiled water'. Pureit is now a successful and leading product in the market. He has been inventor of many other technologies that are implemented in the market, viz., polymer coated dish wash bar to reduce wastage during use, natural chalk based toothpastes with enhanced fluoride & flavor stability.

Dr. Mahapatra received his PhD degree in Chemistry from IIT Kanpur in 1993 under the guidance of Prof R.N. Mukherjee. He then joined Prof Bill Tolman at University of Minnesota (USA) as a postdoctoral associate working in the area of Bio-Inorganic chemistry. His discovery of copper(3+) di-oxo system made from molecular oxygen (published in Science) resulted in creating a new field of research and is now part of textbooks.

Dr. Mahapatra is co-inventor of 30 patents. He has 40 publications with 2000+ citations and H-index of 24. Dr. Mahapatra is also an editorial member and reviewer of several international journals.

Dr. Mahapatra is a member of United Nations' Economic & Social Commission of Asia Pacific (UN ESCAP), task force committee on 'Innovation and Competitiveness'.

Tea at 6:00 PM

All interested are welcome.

Amalendu Chandra  
Dean of Research and Development, IIT Kanpur