

First ILSI India
Symposium on
Safety and Benefits of
Nanotechnology

Agriculture, Water Safety,
Food & Food Safety,
Nutrition, Packaging

Date:
Monday, 26 July 2021

Time:
14.30-17.30 IST

Camp:
New Delhi

Web Platform:
CISCO Webex

The CISCO Webex Link for joining the Symposium is:
<https://ilsi-india.webex.com/ilsi-india/onstage/g.php?MTID=e167a5b3f2fea630f0987c0a495227839>



International Life Sciences Institute India

Background

Nano science and nanotechnology are the study and application of extremely small things and can be used across all the other science fields, such as chemistry, biology, physics, materials science, environmental science and engineering. Nanotechnology offers opportunity of manipulating the applications of material at minute nano level. A nanometer is one-billionth of a meter; there are 25,400,000 nanometers in an inch and the diameter of a human hair is, on average, 80,000 nanometers.

Nanotechnology or nanotech offers significant benefits in various sectors, including food, water and agriculture. According to a Joint FAO/WHO Meeting Report on “Nanotechnologies in Food and Agriculture” the number of nanotechnology-derived products and applications in these sectors has been increasing steadily in recent years, and are predicted to grow further in the future. New and emerging applications such as water purification systems, rapid detection systems for pathogens and chemical contaminants, and nano-enabled renewable energy technology applied along the food chain are few examples. Thus, nanotechnology may significantly contribute to addressing some of the challenges pertaining to sustainable agricultural development, as well as the food safety and food security issues that many countries are facing today – particularly developing countries. The concerns about the safety, of nanomaterials have been raised from time to time and hence it is important to be aware of the safety regulations and national and international requirements.

Symposium Objectives

1. To understand application of Nanotechnology in Agriculture, Food and Food Safety, Nutrition and Packaging.
2. To look at how Nanotechnology can be used for promoting Water Safety and Water Availability.
3. To discuss the Safety of Nanomaterials/products and International/national guidance/regulations for use of Nanotechnology.
4. To understand risk assessment process of Nanomaterials in Foods.

Output

Symposium Report will be prepared and widely disseminated for creating awareness about this new technology. Recording of the Symposium will be shared with the Attendees.

Agenda

Chair: Prof. P. K. Seth, Chairman, ILSI India

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| 14.30 Hrs. | Introduction
Ms. Rekha Sinha, Executive Director, ILSI India |
| 14.35 Hrs. | Welcome and Observations
Prof. P. K. Seth, Chairman, ILSI India |
| 14.45 Hrs. | Overview of Nanotechnology Applications (Agriculture, Food and Food Safety, Nutrition and Packaging)
Prof. H. N. Mishra, Professor of Food Technology, IIT Kharagpur |
| 15.15 Hrs. | Nanotechnology for Improving Availability and Quality of Water
Prof. T. Pradeep, Chair Professor and Professor of Chemistry, IIT-Madras, Chennai |
| 15.45 Hrs. | Risk Governance of Nanomaterials in Foods
Prof. Qasim Chaudhry, University of Chester, United Kingdom |
| 16.15 Hrs. | Safety of Nanotechnology –From Research to Policy
Prof. Alok Dhawan, Director, Center of Bio-Medical Research, Lucknow |
| 16.45 Hrs. | PANEL DISCUSSION |
| 17.15 Hrs. | Vote of Thanks and Next Steps |

About ILSI India

ILSI India is an entity of the International Life Sciences Institute (ILSI), headquartered in Washington DC. ILSI India is a nonprofit scientific organization provides scientific inputs and secretariat assistance to the South Asian Region, which includes Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. It works on public health issues relating to Food and Water Safety, Risk Science and Toxicology, Nutrition and Wellness, Agriculture Sustainability and Nutrition Security and Environment.

ILSI India carries out its mission through sponsoring workshops, symposia, conferences, seminars, training programs, research projects, and publications. ILSI India works closely with government, industry, research institutions, academia, and international organizations. All ILSI India's work is guided by Principles of Scientific Integrity, ILSI India identifies and works on important new areas impacting human health and has pioneering work. Recently it has taken the initiative to set up center of excellence called *Knowledge Center on Functional Foods, Immunity and Gut Health (K-FFIG)* and a *Task Force on Nutrition and Brain Health (NABHI)* Please visit www.ils-india.org for further information.

Online Symposium On “Safety and Benefits of Nanotechnology”
Agriculture, Water Safety, Food & Food Safety, Nutrition, Packaging

About Speakers



Prof. P. K. Seth
Chairman,
ILSI India

Prof. Seth, Chairman, ILSI India, a biochemical pharmacologist and toxicologist has made pioneering contributions to the field of neurotoxicology. He is a Former Director of CSIR-Indian Institute of Toxicology Research and the Founder CEO of first and only Biotech Park in UP. A NASI Senior Scientist Platinum Jubilee Fellow, Prof. Seth is a Mentor and Distinguished Scientist at Biotech Park, Lucknow and a Distinguished Toxicologist, Society of Toxicology, India.

Prof. Seth, has made significant contributions to Toxicology, Neurosciences, Biotechnology and Environmental Health during the last four decades which are widely recognized nationally and internationally. He brought in concepts of mechanistic toxicology for assessing the risk to toxic substances and the need to identify the target molecules which could be used as markers of exposure and prediction of adverse effects of chemicals on health.

Prof. Seth has made important contribution to environmental health and environmental protection. He served as the National Coordinator of the GEF-UNIDO project on Persistent Organic Pollutants and Regional Coordinator of GEF-UNEP project on Regionally Based Assessment of Persistent Toxic Substances which involved 12 countries.

In recognition of his contributions Prof. Seth has been invited as Visiting Scientist and Visiting Professor at several U.S. institutions (NIH, FDA) and universities and has been elected Fellow of several national scientific bodies. Dr. Seth is recipient of Vigyan Gaurav Samman (2004), the highest science award of Government of Uttar Pradesh; Prof. B. K. Bachhawat Life Time Achievement Award of Indian Academy of Neurosciences Sciences; Toxicology Award of the National Academy of Science India; P.C. Ray Memorial Award of Indian Science Congress; and Distinguished Toxicologist Award of the Society of Toxicology, India.

He holds 10 patents and has published over 260 research papers, contributed more than 50 review articles / book chapters and reports.



Prof. H N Mishra
Professor of Food
Technology
Professor I/c &
Nodal Officer,
Agri Business
Incubation Centre
Indian Institute of
Technology
Kharagpur

Professor H N Mishra has more than 35 years of professional experience in teaching and research in food technology, has many laurels and awards to his credit.

He has published 583 research papers including 209 in peer reviewed international journals and 306 in conference proceedings; 15 popular articles, 34 book chapters. He has written 4 books, 4 e-books, 7 lecture compendium & laboratory manuals, 4 technology manuals, and has 14 Indian patents to his credit. Besides, he is on the editorial boards of several reputed journals. He has supervised more than 275 student research projects including 10 Post-Doctoral and 50 Ph D research scholars.

Professor Mishra has handled several international and national sponsored research and industrial consultancy projects. Professor Mishra has worked in different capacities on various academic and administrative committees of IIT Kharagpur and many other institutions in the country.



Prof. Pradeep, T.
Chair Professor
and Professor of
Chemistry,
Department of
Chemistry
Indian Institute of
Technology
Madras, Chennai

Prof. Thalappil Pradeep is Professor of Chemistry. He is also an Institute Chair Professor. He has conceptualized and built the International Centre for Clean Water (www.iccwindia.org), a new initiative of IIT Madras.

Prof. Pradeep earned a Ph. D degree in chemical physics. Subsequently, he spent about two years as a post-doctoral fellow at the University of California, Berkeley and Purdue University, Indiana. Since then, he has been working at the Indian Institute of Technology Madras. He also held visiting positions at Purdue University, Leiden University (Netherlands), EPFL (Switzerland), Institute of Chemistry (Taiwan), Pohang University of Science and Technology (South Korea) and the University of Hyogo (Japan).

In 2020 he received the Padma Shri award for his distinguished work in the field of Science and Technology. He has received the Nikkei Asia Prize (2020), The World Academy of Sciences (TWAS) prize (2018), and the Shanti Swarup Bhatnagar Prize for Science and Technology in 2008 by Council of Scientific and Industrial Research.



Prof. Qasim Chaudhry
University of
Chester,
United Kingdom

Prof. Qasim Chaudhry has academic background in chemistry and biochemical toxicology, with longstanding expertise in health and environmental safety of food and other consumer products. His scientific career spans over 35 years, including 25 years at the UK's Food and Environment Research Agency (FERA) York.

Over the years, his research work has encompassed different aspects of chemistry, biochemistry/ toxicology, molecular biology relating to safety of chemicals and nanomaterials; in silico (computational) toxicology to assess safety of chemicals without testing in animals, natural products from plants, immunodiagnostics for small-molecule compounds, bioremediation of organic pollutants, and modes of toxic action of chemicals. He is a Fellow of the Royal Society of Chemistry (FRSC). Author/ co-author of over 60 scientific publications. A list of his scientific publications is available at <https://scholar.google.com/citations?hl=en&user=SQ4K0uoAAAAJ>.

As an independent Expert, Prof. Chaudhry provides his scientific advice to the European Commission's Scientific Committee on Consumer Safety (SCCS) on risk assessment of chemicals and nanomaterials in cosmetics; various working groups of the European Food Safety Authority (EFSA), and the UK's Food Standards Agency's Joint Expert Group on Additives, Enzymes and other Regulated Products.



Prof. Alok Dhawan
Director
Centre of
Biomedical Research,
Lucknow

Prof. Alok Dhawan is currently Director, Centre of Biomedical Research, Lucknow. Previously he served as Director, CSIR-Indian Institute of Toxicology Research, Lucknow and Outstanding Professor, Biological Sciences, Academy of Scientific and Innovative Research (AcSIR), New Delhi. He also served as Director (Additional Charge), CSIR-Central Drug Research Institute, Lucknow from December 2017-July 2018. He was the Founding Director, Institute of Life Sciences, and Dean, Planning and Development, Ahmedabad University, Gujarat. He has played an important role in building institutions of excellence in higher education and national laboratories across the country.

He obtained his Ph.D. Degree in Biochemistry from University of Lucknow, India in 1991 and was awarded D.Sc. Degree (h.c.) by the University of Bradford, U.K. in 2017. Professor Dhawan developed several areas at CSIR-IITR namely, Genetic Toxicology, In-vitro Toxicology, Alternate to Animal Models in Toxicology, In-silico Toxicology and Nano-material Toxicology apart from an innovation ecosystem. He started the area of Nanomaterial Toxicology in India and published a guidance document on the safe

use of Nanomaterials. His group elucidated the mechanism of toxicity of metal oxide nanoparticles in human and bacterial cells. His work has been widely cited. He set up a state-of-the-art Nanomaterial Toxicology facility at CSIR-IITR and contributed towards framing the national guidelines for Nanopharmaceuticals and Nano-Agri products apart from others.

As a Mission Director, he steered a CSIR-Mission Mode Programme on Food and Consumer Safety Solution (FOCUS) involving several CSIR institutes to provide technological solutions from “farm to fork”. Apart from the National Reference and Referral Centres of the FSSAI, he has been instrumental in establishing the BIRAC-BIONEST and DSIR-CRTDH at CSIR-IITR to promote entrepreneurship.

Professor Dhawan has won several honours and awards including the INSA Young Scientist Medal, CSIR Young Scientist Award, the Shakuntala Amir Chand Prize of ICMR; Award Lecture in the field of Toxicology,; the Vigyan Ratna by the Council of Science & Technology, UP in 2011; Lucknow University Alumni Association Award, 2016; Professor S.S. Katiyar Endowment Lecture 2019-2020, The Indian Science Congress Association.

He founded the Indian Nanoscience Society in 2007. In recognition of his work he has been elected Fellow, The National Academy of Sciences, India; Fellow, The Academy of Toxicological Sciences, USA; Fellow, The Academy of Environmental Biology; Fellow, Academy of Science for Animal Welfare; Fellow-Society of Toxicology (India), Founder Fellow, Indian Nanoscience Society; Fellow, Gujarat Science Academy; Fellow, Royal Society of Chemistry, Fellow, National Academy of Medical Sciences (2017), President, Society of Toxicology (STOX), India (2018-), Vice President-Environmental Mutagen Society of India (2006-07).

He has to his credit more than 150 publications, 20 reviews/book chapters, seven patents, six copyrights and has edited nine books.

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https://docs.google.com/forms/d/e/1FAIpQLSczg0tD6PFUfqSSFTgeGCO61JOV7PtreRJR2pU40eK8_s7SSA/viewform

For more information:



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