Chemical, biochemical and environmental issues related to cancer and solutions addressing problems

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Overview

Cancer may develop over many years and could have many causes. Several risk factors both inside and outside the body contribute to the development of cancer. In this context, scientists refer to everything outside the body that interacts with human body as the "environment". The number of cancer patients is on rise since last decade, such as in developing countries like India – a major health problem of serious concern. This could be due to lack of awareness, over exposure to chemicals and pollutants, and excessive use of pesticides/ insecticides to increase the agricultural products as per demand of the market.

Through this coursework and lecture series, we would like make students and faculty to understand the chemical, biochemical and environmental issues related to the cause of cancer and what are the different procedures, methods, technologies are available presently/-in use to address these challenges. Further, what the new and emerging areas are within the research field to counter the problems will be addressed.

Academicians, researchers having high international reputation with well-proven record of experiences in teaching, research and consultancy in the above field will deliver lectures. Audience will also have an opportunity to interact closely with the experts. This will also open up a new window of international collaboration in teaching and research.

Modules	**Major objective would be to inform the audience regarding the causes along with the latest and emerging areas of cancer treatment. Further, highlighting the technological solutions presently in use to address the important issues in the related areas. Following topics will be covered from September 11-16, 2017.** **A: Chemical and biochemical mechanisms underlying DNA damage and repair** **B: Next generation techniques for environmental toxicology and genotoxicity** **C: Environmental mutagenesis and carcinogenesis** **D: Biomarker development and human risk assessment** **E: Translational and precision medicine**
You Should Attend If…	1. Faculty members from reputed academic, technical and medical institutions 2. Students at different levels (B.Tech./M.Tech./M.Sc./Medicine/Ph.D.) 3. Executives, engineers and researchers from manufacturing, service and government organizations including R&D laboratories
Fees	The participation fees for taking the course is as follows: **Foreign Participants: US$ 500** **Faculties from academic institutions/Govt. research organizations: Rs. 3,000/-** **Students** **B.Tech./M.Tech./M.Sc./Medicine: Rs. 500/-** **Ph.D.: Rs. 1000/-** **Persons from Industry: Rs. 10,000/-** The above fee include all course related materials, food and refreshments. The participants will be provided with accommodation on payment basis.

The Faculty

Dr. Bo Hang is a Staff Scientist and Principal Investigator in Biological Systems and Engineering Division, Lawrence Berkeley National Laboratory, Berkeley, USA. He had received his M.D. and M.S. degrees from Nanjing Medical University, China and Fudan University, Shanghai Medical College, Shanghai in 1982 and 1988 respectively. He was awarded Ph.D. in Biochemistry & Molecular Biology from Rutgers University, New Jersey, USA in 1994. He worked as a Post doc Fellow in Life Sciences Division, Lawrence Berkeley National Laboratory (LBNL), University of California, Berkeley from 1994-96. Currently he is also a Visiting Professor in Nanjing Medical University, Nanjing, China. Over the last twenty years, his research group has been actively working on DNA damage and repair, translesional DNA synthesis (TLS), environmental toxicology and genotoxicity, environmental mutagenesis and carcinogenesis, secondhand smoke (SHS), thirdhand smoke (THS), cancer biology, active DNA demethylation, Fragile X Syndrome, epigenetics, biomarker development and instrumentation, molecular modeling, translational medicine and precision medicine. He has been involved in number of ongoing and completed research projects sponsored by NIH, DOE and State of California as PI and Co-PI. He is acting as the academic editor of PLOS ONE and as editorial board member of ISRN Molecular Biology and Advances in Molecular Biology journals. He was the member of LBNL Radiation Safety Committee from 2006-2014. Presently, he serves on the Steering committee, California Consortium on Thirdhand Smoke funded by TRDRP and as invited director, Jiangsu Association for Science & Technology, Jiangsu Province, China.

Course Co-ordinators

Dr. Pamita Awasthi, Associate Professor
email: pamitawasthi@gmail.com,
pamita@nith.ac.in,
telephone: +91-1972254140

Dr. Kalyan Sundar Ghosh, Assistant Professor
email: kalyansg5@gmail.com,
kalyan@nith.ac.in,
telephone: +91-1972254104, 8894768802

Department of Chemistry, National Institute of Technology Hamirpur, H.P. 177005

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http://www.gian.iitkgp.ac.in