IMCB Invited Speaker



Speaker : **Prof. Neal Copeland**
Director, Cancer Research Program,
The Methodist Hospital Research Institute, Houston, Texas, USA

Date : 24 February 2014, Monday

Time : 11:00AM - 12:00PM

Venue : IMCB Seminar Room 3-46, Level 3, Proteos, Biopolis

Host : Prof. Wanjin Hong

Seminar :

Harnessing Transposons for Cancer Gene Discovery in the Gastrointestinal Tract

Each human colorectal cancer (CRC) has on average 70 mutations, including a few mutations in commonly mutated genes such as *APC*, *KRAS*, *SMAD4* and *P53*, and a large number of mutations in infrequently mutated genes. Sorting out which of the infrequently mutated genes are drivers as opposed to passengers for CRC has been challenging. In my talk I will describe how we have used transposon mutagenesis in mouse models of CRC to identify 207 candidate cancer genes that appear highly relevant for human CRC, and helped to validate a number of infrequently mutated CRC genes. I will also show how we have been able to functionally enrich for genes involved in tumor progression and describe functional validation experiments for 19 of these genes. Finally, I will describe a new tumor suppressor we identified in our screen and provide evidence for its role in human CRC, and possibly other human cancers as well. Our comprehensive dataset provides a rich resource with which to develop personalized cancer therapies for CRC.

About the Speaker :

Neal Copeland received his Ph.D. in Biochemistry from the University of Utah. Following postdoctoral studies at Harvard Medical School, he joined the staff of The Jackson Laboratory and then the National Cancer Institute-Frederick, where he was Director of the Mammalian Genetics Laboratory, the forerunner of the Mouse Cancer Genetics Program that he also directed. He moved to the Institute of Molecular and Cell Biology in Singapore in 2006, where he served as the Executive Director for most of his stay. In 2011 he returned to the US to serve as Director of the The Methodist Cancer Biology Program at The Methodist Hospital Research Institute. For more than 30 years he has co-headed a laboratory with Nancy Jenkins. The focus of their current research is cancer genetics. They have co-authored more than 780 papers and are among the 50 most cited biomedical research scientists in the world today. Both have served on numerous scientific advisory and editorial boards and they have consulted for several biotechnology and pharmaceutical companies. Both are also members of the US National Academy of Sciences.

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