TIFR Centre for Interdisciplinary Sciences
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Seminar

Fishing for new deterrents to counter smoking addiction

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In spite of a long history of efforts to curb tobacco use, smoking remains world's leading cause of premature death today. Apart from known links to cancers, smoking accounts for more preventable deaths than accidents, suicides, homicide, HIV infection and obesity combined. In Singapore, smokers are also over represented among hospitalization cases for stroke, or pulmonary, or cardiovascular ailments. Awareness of such adverse health consequences don't often translate to higher quit rates. New research suggests that gene expression changes and altered brain reward circuit activity that accompany prolonged tobacco use are likely reasons.

A strategic move therefore is to complement better public health policies with developing new pharmacological aides that deter a smokers' progress from a regular user to a dependent. At present, apart from nicotine replacement therapy, only one FDA approved drug with limited success in cessation programs is commercially available. This project was initiated with the aim of translating recent findings on the function of a conserved, vertebrate circuit that regulates appetitive/aversive behaviors as a means to discover new smoking deterrents using the zebrafish. In this talk, I will describe the progress made towards this aim through the use of new behavioral assays, chemoinformatic drug design and genetic manipulation to recapitulate the human condition.

Tuesday, Apr 5th 2016

4:00 PM (Tea/Coffee at 3:45 PM)

Seminar Hall, TCIS