

Lecture on Nobel Prize in Physiology or Medicine 2018

Date: 1st February, 2019

Participants: 125

Resource person: Prof. Dipankar Nandi, Department of Biochemistry, IISc., Bangalore



Speaker

Prof. Dipankar Nandi
Department of
Biochemistry,
IISc, Bangalore

Date

1st February, 2019
Friday

Time

11:00 am

Venue

Sir P. T. Sarvajanik
College of Science,
Surat



Medicine



Department of Zoology

**Sir P. T. Sarvajanik College of
Science**

Cordially invites you to
The Public Lecture

**"T cell Costimulation and
Anti-tumor Therapy"**

Abstract

Our immune system protects us from commensals and invading pathogens. Broadly, there are two arms of this system: innate and adaptive. The innate response is quick and non-specific. On the other hand, the hallmarks of the adaptive immune response are specificity and memory. B cells and T cells, via the B cell receptors (BCRs) and T cell receptors (TCRs) respectively, are the two types of cells responsible adaptive immunity. TCRs recognize peptide antigens in complex with the Major Histocompatibility Complex (MHC) encoded molecules. However, binding of cognate MHC-peptide complexes alone does not trigger T cell activation. Optimal T cell activation requires "context" in the form of costimulation. This talk will describe the principle of T cell costimulation and the interactions of appropriate costimulatory receptors with their ligands that are required for optimal activation of T cells. Subsequently, the studies that led to discovery of CD28 and CTLA4 as costimulatory receptors with opposing functions will be discussed. Finally, the foray into anti-tumor responses using antibodies against T cell costimulatory receptors, CTLA4 and PD1, will be discussed. A highlight will be the insights gained by the speaker as a graduate student in Prof. J. Allison's laboratory during 1986-1992.

Brief report

On 1st February, 2019, the Department of Zoology organized a lecture on the Nobel Prize in Physiology or Medicine 2018, awarded jointly to James P. Allison and Tasuku Honjo "for their discovery of cancer therapy by inhibition of negative immune regulation." Prof. Dipankar Nandi, Department of Biochemistry, IISc., Bangalore was invited to deliver a lecture on "T cell costimulation and anti-tumor therapy." He gave us the insight of the principle of the T-cell costimulation and the interactions of appropriate costimulatory receptors with their ligands that are required for optimal activation of T-cells. He discussed the studies that led to discovery of CD28 and CTLA4 as costimulatory receptors with opposing functions and the foray into anti-tumor responses using antibodies against T-cell costimulatory receptors, CTLA4 and PD1. He also shared his past experiences of Prof. J. Allison's laboratory. At the end of the amazing session, Prof. Nandi interacted with students and answered their queries.