Dipyaman Ganguly
Ramanujan Fellow, Immunology
CSIR-Indian Institute of Chemical Biology,
4, Raja S.C. Mullick Road,
Kolkata, West Bengal, India, 700032.
dipyaman@iicb.res.in

PROFILE

Dipyaman Ganguly obtained his M.B.B.S. degree from Medical College & Hospitals, Kolkata in 2001. Despite being trained as a clinician he decided to move to biomedical research and joined Institute of Genomics and Integrative Biology, Delhi in 2002 to work as a Clinical Associate. In 2003 Dipyaman joined Indian Institute of Chemical Biology in Kolkata to pursue his Ph.D. in Biotechnology. He earned his degree from West Bengal University of Technology, Kolkata in 2008. In 2006 he moved to USA to join the Immunology Graduate Program in University of Texas M.D. Anderson Cancer Center, Houston, USA. Dipyaman earned his second Ph.D. in Immunology & Biomedical Sciences from University of Texas Houston Health Science Center and UT M.D. Anderson cancer Center in 2010. Then he joined the department of Microbiology & Immunology in Columbia University, New York, USA as a Postdoctoral Research Scientist. In 2013 Dipyaman returned to India to start his independent laboratory as a Ramanujan Fellow in the division of Cancer Biology & Inflammatory Disorders in CSIR-Indian Institute of Chemical Biology, Kolkata. He was awarded the Vivian L. Smith Outstanding Young Immunologist Award by UT M.D. Anderson Cancer Center in 2007, the Keystone Symposium Scholarship in 2009 and the S.L.E. Foundation Postdoctoral Fellowship in 2011.

RESEARCH DESCRIPTION

The basic premise for immune algorithm is distinguishing self from nonself. This is achieved by different modules of host immune system. The 'innate' immune system recognizes the nonself based on predominantly nonself-associated molecular patterns (PAMPs), while the 'adaptive' immune axis adapts to the nonself molecular determinants - these two work together toward an effective immune response. Effective immune response to an invading pathogen (nonself) leads to protective immunity and a defective response leads to overt infection. On the other hand, an unintended response to the self-entities leads to autoimmune disorders, while a misjudged tolerance to the altered self contributes to tumorigenesis. Dendritic cells (DCs) are the innate cells with most of the decision-making responsibilities for an ensuing immune response or tolerance. Thus they have overlapping roles in the clinically distinct contexts of infection, autoimmunity and cancer. Dipyaman's research broadly concentrates on role of dendritic cell subsets in the crossroads of infection, autoimmunity and cancer. His laboratory is trying to map the overlapping role DCs play in these clinical contexts and use the knowledge gathered from one context to design novel therapeutic strategies in others.