Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad – 500 046

Students' Annual Seminar

Total Chemical Synthesis of *Pf*AMA1 Domain-I: A Key Protein Target to Prevent RBC Invasion by Malarial Parasites

Vishal Malik

Among four *Plasmodium* species, *Plasmodium falciparum (Pf)* is responsible for major deaths caused by malaria in humans. Widespread resistance of the *P. falciparum* against frontline antimalarial drugs warrants alternative molecular targets and drug development approaches to mitigate drug resistant outbreak. Protein-protein interaction involving two parasite proteins, Apical Membrane Antigen 1 (*Pf*AMA1) and Rhoptry Neck protein (*Pf*RON2), is known to be crucial for erythrocyte invasion by the blood-stage parasites (merozoites). Disruption of the *Pf*AMA1-*Pf*RON2 interactions is known to inhibit parasite invasion into erythrocytes; and therefore, considered as a promising drug target. In my talk, I will cover the challenges of synthesizing the parasitic protein *Pf*AMA1, and the methods employed in its chemical synthesis. I will also touch upon the future perspectives on developing D-protein inhibitors of *Pf*AMA1-*Pf*RON2 interactions.

Monday, May 15th 2023

3:30 PM (Tea / Coffee 03.15 PM)

Seminar Hall, TIFR-H