Title of the project: Analysis of Hemoglobin Variants-Phase 2

Category (translational/bioengineering/biodesign): Translational

List of all investigators (IISc and clinical institutions)

Name	*Position and Affiliation*	*Email address*
Amit K. Mandal	Professor, St. Johns Research Institute	amit@sjri.res.in
Cecil Ross	Professor, St. Johns Research Institute	cecilrross@gmail.com
Debnath Pal	Professor, Indian Institute of Science	dpal@iisc.ac.in

Statement of research

For selected Hemoglobin variants, variant quantification protocols will be developed subject to availability of samples from Army Hospitals. For the limited number of samples that may be available from other sources, we will perform structure-function analysis of hemoglobin variants to understand the effect of mutation. Computer modelling will be explored *in silico* to better understand the structural change associated with oxygenation of hemoglobin variants. The inhibition of sickle cell hemoglobin polymerization will be targeted through *ex vivo* post-translational modification to develop therapeutic strategy for Sickle cell anemia.

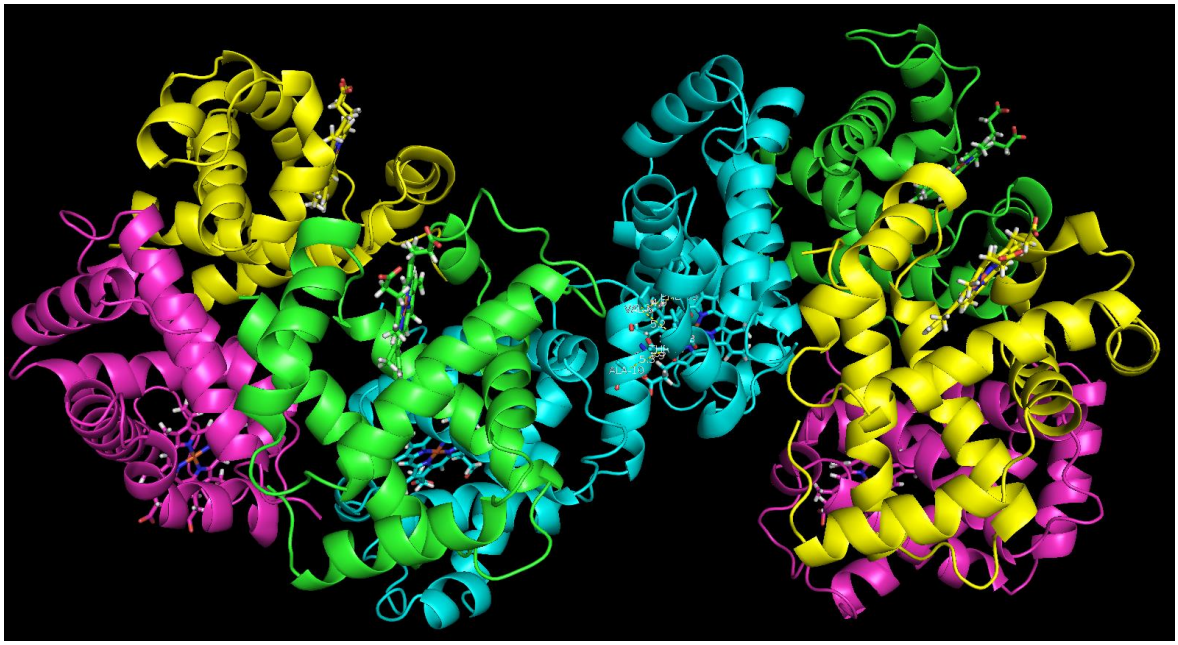

Fig: Hemoglobin variants and their effects on tertiary and quaternary structure stability, dynamics, interaction and molecular function.