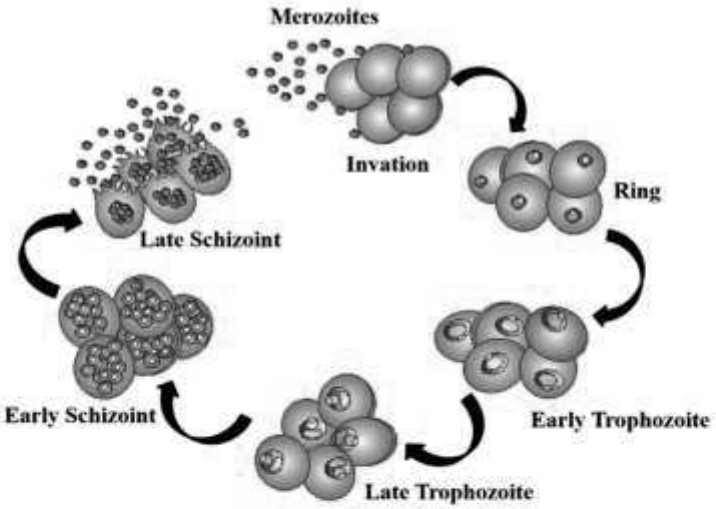
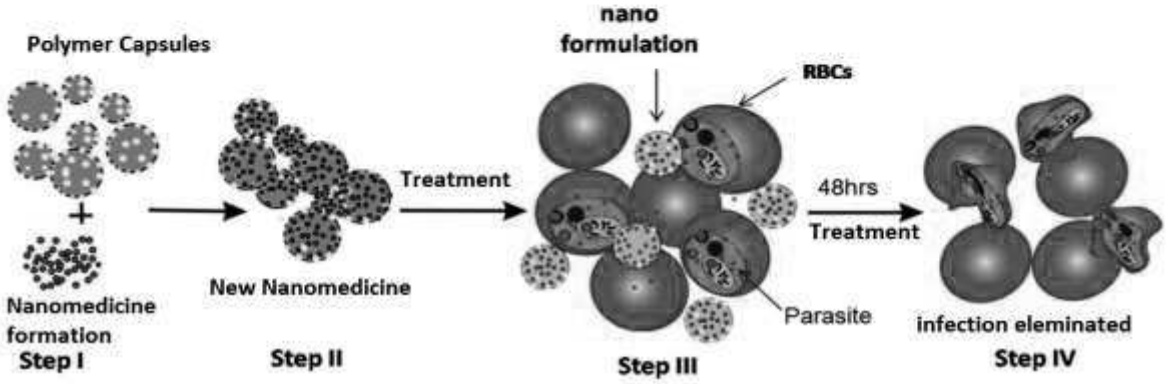
"A New Polymer based Nanomedicine for Treatment of Malaria"

Discovered **by Dr. Pradip Paik, Associate Professor, School of Biomedical Engineering, IIT BHU)**

Dr. Pradip Paik, Associate Professor of School of Biomedical Engineering, Indian Institute of Technology (BHU), Varanasi, and his research group has invented a new polymer-nanomedicine for treatment of Malaria. This exciting polymer based nanomedicine is efficient for acuity of controlling the *P. falciparum* infection.

(Dr. Pradip Paik)





Till today Malaria is one of the most life threatening ailments in human which causes annually about 212 million cases and 429,000 deaths across the globe according to WHO (2016). Among the four parasite species that infect human, *Plasmodium falciparum* is the deadliest one. Due to the widespread resistance to all the existing available drugs, novel drug targets, new anti-malarial drugs or new drug delivery system are urgently needed to prevent the undecorated side effects.

Dr. Paik's research group has developed a new formulation of porous polymer capsules with commonly used antimalarial drugs that has shown excellent anti-malarial activities. This nanomedicine system is equipped with a "*time-temperature clock" module*, where the dosses for the treatment can be precisely tuned according to the requirement of patents. Dr. Paik reported that this new formulation is quite efficient in controlling the infection and killing the *P. falciparum* in RBCs. Paik is the pioneer in this technique, has reported that this nanomediicine system is very unique and ready for the animal trial. The nanomedicine developed by Dr. Paik's research group is very economical and it has exhibited very much target (RBC) oriented. This new polymeric nanocapsules itself do not have any side effects and not toxic. Further, the sensitive drugs used for antimalarial action will remain in safe condition inside this capsule and will available once it is require. Dr. Paik highly appreciate the effort of his Ph.D. scholar, Himadri Medhi and acknowledge the help of one of the leading malaria biologist Prof. Mrinal Kanti Bhattacharyya, University of Hyderabad for testing the effect of the nanomedicine on the *in vitro* culture of human malarial parasite *P. falciparum* suppression studies.