



## **Engineering of nanovectors for the delivery of antimalarial drugs to Plasmodium transmission forms in the mosquito**

The recent appreciation that decreasing malaria prevalence requires strategies to reduce pathogen transmission through the mosquito vector has prompted a renewed search for new strategies, among which nanotechnology can provide useful therapeutic tools in the form of nanovectors for the targeted delivery of drugs to the malaria parasite, *Plasmodium* sp. The knowledge gained by our group in the targeting of intraerythrocytic *Plasmodium* forms will be applied to the engineering of nanovectors designed for the delivery of antimalarials to gametocytes, a stage of the parasite that requires transfer from humans to the female *Anopheles* mosquito to complete its development. Nanocapsules and targeting molecules will be developed for direct drug delivery to gametocytes, including polyamidoamine-derived polymers, sulfated polysaccharides, and gametocyte-binding DNA aptamers. Using gametocytes will be a good training field for the administration of antimalarials to parasite stages exclusively found in *Anopheles*, where *Plasmodium* is at its weakest and where transmission-blocking strategies might have the best prospects of being successful.