Statement of Research

During my undergraduate studies, I conducted a research on the **Larvicidal properties of *Datura stramonium* and *Nicotiana tabacum* against mosquito (Culicine species).** The aqueous extracts of the two plants were assayed against the test mosquito species according to the WHO larvicidal procedures. While both plants exhibited bioactivity against culex larvae, my result demonstrated that tobacco leaf extract was more effective at the doses investigated.

For my MSc. research, I investigated **Indoor Environmental Quality of selected offices on the UWI Mona campus**. The physical parameters viz-a-viz CO_2 concentration, temperature, noise level, dew point, and relative humidity in the selected offices were determined. Occupants' perception, satisfaction, comfort levels and health symptoms experienced by occupants in the selected offices were also evaluated. A cross sectional mixed method study design was employed for this research. Measurements of physical parameters at the offices were taken and demographic information of the respondents was collected. Vital information through face to face interviews with senior management staff associated with the buildings was elicited. Air quality was generally poor at the selected offices; relative humidity and temperature were within the acceptable ranges and the noise levels were generally above the recommended guideline. The majority of the respondents indicated that they have experienced one or more health symptoms. The offices in the buildings cannot be declared absolutely unsafe for occupancy, as the majority of the occupants felt satisfied and comfortable working in their offices and only a small percentage of the occupants perceived the indoor air quality as poor. This research suggests that IEQ study in office buildings is particularly important in ensuring that work space is comfortable and conducive.

Currently, I am part of a team screening six herbal products, using conventional and scientific methods, to combat malaria menace. For the first phase, we were able to compare the efficacy of two methods of herbal extraction - decoction and ethanolic extraction - in reducing *Plasmodium berghei* load in wistar rats. We were able to establish that the ethanolic method of extraction proved to be much more efficacious than the decoction method counterpart. For the second phase, we had to evaluate the acute toxicity of the six herbal plants using the wistar rat model. This entailed that we establish the LD_{50} for the test plants using two routes of administration – oral and interperitoneal - and also evaluate the behavioural responses of the wistar rats to the treatment regimes. The Locke's method was adapted for this phase of research. Findings revealed that the majority of the test plants were less toxic to the rat species having LD_{50} greater than 5000 mg/kg body weight. In addition, the oral route of administration showed a high safety margin when compared with the interperitoneal route.