THE BIOTECHNOLOGY CENTRE

Professor M. Ahmad, BSc Bhagal, MSc, PhD LARI – Director

WORK OF THE CENTRE

Under the Directorship of Prof. M. Ahmad and with the cooperation and dedication of all staff members, the Biotechnology continued its mandate of teaching and research, aimed at educating and training postgraduate and undergraduate students.

In its pursuit to educate and train students the Biotechnology Centre hosted several workshops/seminars. One such workshop hosted by the Centre, “Concepts of Biotechnology and Genetic Engineering” was held on December 18 and 19, 2006 and July 10-12, 2007. The course aims at training CAPE and A level Biology high school students in Jamaica. Students were trained in recombinant DNA technology, biotechnology and related areas. The workshops included five (5) hours of lectures and seven (7) hours of laboratory sessions conducted by Dr. Marcia Roye and her research team (graduate students). Two workshops are expected to be hosted annually.

The various teams at the Centre continued their research efforts in pursuit to finding solutions to forensic, health, food, agricultural and environmental problems. The main research teams at the Centre are The Gemini Virus Research Team led by Dr. Marcia Roye, The Medicinal Plant Team led by Dr. Sylvia Mitchell, The Transgenic Papaya Team led by Dr. Paula Tennant and the Yam-bioengineering Team led by Prof. Helen Asemota and Dr. Andrew Wheatley.

The Centre continued to receive funding from various organizations to assist in carrying out research. One such organization, the Environmental Foundation of Jamaica funded approximately J$5Million for a two year project “Production and dissemination of medicinal plant monographs” which commenced July 2006. The project’s Principal Investigator is Dr. Sylvia Mitchell.
The Citrus Replanting Project came to an end in January 2007. The project which aimed at developing effective methods of controlling the citrus virus and generating clean planting materials for the industry was successfully completed. The project was funded by the Ministry of Agriculture and the Principal Investigators were Drs. Wayne McLaughlin and Paula Tennant.

Visitors to the Centre

On the invitation of the Director, the Centre had two (2) visitors’ Prof. Hans Jorge Fehling and Dr. Meera Berry, from University of Ulm, Germany. Prof. Fehling works on stem cell research on embryonic mouse cells. A luncheon was held for the visitors at the Mona Visitors’ Lodge.

PAPERS PRESENTED


• Brown, M.C., Roye, M.E., Stanley, J. “TrAP of Cabbage leaf curl virus (CaLCuV-[JM]) as a suppressor of gene silencing”. Jamaica Society for Agricultural Sciences, 17th Annual Conference, Bodles Agricultural Research Station, St Catherine, Jamaica, 2006.

PUBLICATIONS

Refereed Journals

WIMJ = West Indian Medical Journal


**Other Peer Reviewed Publications**


INCOME GENERATION

Grants

Dr. Marcia Roye

USD2000.00 – Campus Committee for Research and Publication & Graduate Grant Awards. “The molecular characterization, interaction and agricultural implications of three geminiviruses infecting the weed Wissadula amplissima from Jamaica” (2007).

USD2000.00 – Campus Committee for Research and Publication & Graduate Grant Awards. The molecular characterization of
Sida golden Braco virus (SiGBuV) and Sida golden Bukup virus (SiGBuV) and their importance to Jamaican agriculture” (2007).

USD2000.00 – Campus Committee for Research and Publication & Graduate Grant Awards. “The Molecular characterization of the geminiviruses associated with the weed Malvastrum americanum in Jamaica” (2007).

Dr. Sylvia Mitchell


Dr. Andrew Wheatley

J$750,000.00 – Environmental Health Foundation, J$750,000.00 - Scientific Research Council and J$750,000.00 - Jamaica Bureau of Standards on the project entitled “Nutritional Supplement as a tool for harm reduction in illicit drug addiction: Derivation of mechanism of action in animal model”.

PUBLIC SERVICE
Prof. M. Ahmad
– Board Member, National Commission on Science and Technology
– Member, CARICOM Working Group on genetically modified organisms (GMOs)
– Member, National Biosafety committee, NCST

Dr. Sylvia Mitchell
– Member, Biosafety Ccommittee, NCST
– Member, Hope Gardens Landscaping Committee
– Member, Ginger Innovation Group (organized by the NCST)
– Member, Nutraceutical Stakeholders Group (organized by SRC)
– Scientific Advisor, Ministry of Health Advisory Committee on Complementary and Alternative Medicine
– Member, Jamaican Society for Agricultural Sciences (JSAS)
– Member, Jamaica Society of Scientists and Technologists (JSST)
INFORMATION ON STUDENTS

Currently, there are eighteen (18) postgraduate students doing research at the Biotechnology Centre; ten (10) PhD candidates and eight (8) MPhil candidates. These include two new students, Miss Rani Jagnarine and Miss Cheryl Green.

Miss Jagnarine is an MPhil candidate, whose work will examine “Micropropagation of Aloe (Aloe barbadensis), Fever grass (Cymbopogon citratus) and Pimento (Pimenta dioica) and mineral, microbial, biochemical and bioactive analysis of their cultivated microplants and derived products” while Miss Green is pursuing a PhD degree and will look at “Chemical and histological analysis of turmeric (Curcuma longa) rhizomes as they develop in the field and under tissue culture conditions”. Both students are supervised by Dr. Sylvia Mitchell.

Three (3) students were awarded postgraduate degrees as follows:

McLaughlin, Pamela. 2007. Genetic diversity, distribution and phylogeny of whitefly-transmitted geminiviruses from Antigua, Barbados, Belize and St Kitts & Nevis. (PhD) Supervisor: Dr Marcia Roye.

Amarakoon, Icolyn. 2007. “Molecular Characterization and phylogeny of geminiviruses infecting the weeds Macroptilium lathyroides and Rhynchosia minima in Jamaica” (PhD, awarded with high commendation). Supervisor: Dr Marcia Roye.


Prizes Awarded

Dr. Bahado-Singh won first prize for his poster presentation entitled “Effect of Low Glycaemic Index Foods in the Management of Hyperglycaemic, Cardiovascular and Nephropathological Disorders in Type II Diabetics” at the UDOP 13th International Diabetes Conference held March 1-4, 2007 in Montego Bay, Jamaica.

Dr. Cliff Riley received the 2006 SRC/JPS Young Scientist of the year award.