DEPARTMENT OF BASIC MEDICAL SCIENCES

Dr. Wayne McLaughlin, BSc Waterloo, PhD UWI
– Head of Department

WORK OF THE DEPARTMENT

In the 2005/2006 academic year Dr. Wayne McLaughlin succeeded Dr. Oswald Simon as Head of Department. The main objectives of the 2005/2006 academic year were to increase publication output, increase grant proposals and improve fiscal management to reduce over expenditure and most importantly to participate in the accreditation process of the faculty. We wish to extend special thanks to Dr. James Mills for his dedication and hard work in this process. In the area of research and publication it was also a busy one for both the academic staff and their postgraduate students. The members of the department participated in several conferences and there was a significant increase in publications. The per capita publication rate for the department was 1.24, up from 0.6 the previous year. Several academic staff and postgraduate students were successful in getting research funds from the Principal’s New Initiative Funds, the School for Graduate Studies and Research, and external funding agencies amounting to approximately US$174,000. Dr. Maxine Gossell-Williams was the most successful academic staff member with a sub-contract from University of North Carolina for US$58,299.00 to continue her work on choline supplementation and neuro-development. With over 80 post-graduate students research however continues to be severely under-funded. Although the Department saw an increase in its budget several measures were put in place to monitor expenditure. These included monthly management meetings and reporting on expenditure from each section on a weekly basis. A full inventory of chemicals and reagents was undertaken in the Biochemistry Section and a computerized inventory system established. This process
will be expanded to the other departmental sections in the near future.

In November 2005, the Department brought into service its state-of-the-art Forensic DNA laboratory, Caribbean Genetics (CARIGEN) with an ABI 3130 DNA analyser and the hiring of a Forensic DNA analyst, Mr. Compton Beecher. CARIGEN is an independent forensic DNA laboratory and has so far been involved in a landmark case by providing DNA evidence to free a man who was incarcerated for four years after being accused of rape. The facility is also playing a key role by providing laboratory courses in forensic genetics to undergraduate students in both the MBBS and the Faculty of Pure and Applied Sciences (FPAS) molecular biology courses. The laboratory is currently preparing to provide genomic sequencing services to researchers.

The past year also saw significant increases in undergraduate student enrolment in all three programmes in the department (MB BS, FPAS Biochemistry and BB Med Sci.). Last year 169 new students were accepted in the MBBS programme, 188 in FPAS biochemistry programme and 18 in the BB Med Sci programme. The department also continued to teach students in the Allied Health programmes offered to nursing and physiotherapy students. The department was also very successful in graduate expansion with 10 new students accepted into various research programs. The building of the new Physiology lecture theatre, and the refurbishing of the Pre-Clinical lecture theatre as well as the Physiology/Pharmacology laboratory were welcomed additions to the department’s teaching facilities. A new undergraduate computer laboratory with 18 computer stations was established in the Department. In addition the Histology laboratory was refurbished primarily to improve the aesthetics and a new audio system installed. However, the expansion of the gross anatomy laboratory during the summer did not take place as planned. The good news is that a new Basic Medical Sciences complex is being planned and construction should begin by January 2008.

The Department said farewell to Dr. Fritz Guldner, Professor of Anatomy and Mrs. Tazhmoye Crawford-Brown, Senior Administrative Assistant. Professor Helen Asemota was on secondment for 9 months to Shaw University, North Carolina, USA while Dr. Simon went on well deserved sabbatical. The Department welcomed back Dr. Michelle Hamilton who was on leave and completed her MBBS degree. Dr. Hamilton was awarded tenure and Dr. Kerith Golden was promoted to senior lecturer. Dr. Keerti Singh joined the department as a new lecturer in Anatomy. Her main research interest is in mesterolone therapy in oligospermic males.
STAFF AWARDS

Dr. Paul Brown

- American Society for Microbiologists (ASM) - Early Career Travel Award.

Dr DalipRagoobirsingh

- Fulbright Fellowship - Non-Communicable Diseases Unit, Pan American Health Organization (PAHO) Head-quarters, Washington, D.C., USA.

PAPERS PRESENTED


- Gossell-Williams, M, Fletcher H, Dacosta K, Zeisel S, Jacob, Anderson-McFarlane N. Influence of pregnancy on the fatty acid composition of plasma phosphatidylethanolamine and on plasma choline concentrations in humans. 2006 Experimental Biology meeting April 1-5.


12th International Conference on Diabetes, March 2-5, 2006, Ocho Rios, Jamaica.


- Singh PDA, Shirley-Singh D and Singh-Gandretti, PE (2006) Cardiovascular effects of two plant extracts used in folklore medicine by Caribbean ethnic populations. 21st Annual Interdisciplinary Conference on Hypertension and Related Cardiovascular Risk Factors in Ethnic Populations, ISHIB, Atlanta, p. 50.


Presentations made at the Faculty of Medical Sciences Annual Conference, November 16 - 18, 2005.

- Gossell-Williams, M., H Fletcher, S Zeisel, N. McFarlane-Anderson, A Jacob, J Patel Longitudinal Assessment of plasma choline and metabolites in pregnant women attending the antenatal clinic at UHWI.

- Grant, JA., YA Jackson, M Gossell-Williams. The synthesis and Pharmacological Activity of some Novel 1, 3- Diazepinium Chlorides.

Less, L., G. Xuereb and D. Ragoobirsingh: Jamaica’s Status Progress within Dawn’s call to action.


Xuereb, G., and D. Ragoobirsingh: Best Care and Practices in the Caribbean.


Powell, S-A., R. L. Lindo, Tara Dasgupta, D. Crans. Insulin-Enhancing Effects of Vanadium Dipicolinate (NH₄[dipic-Cl].H₂O) on Type1 STZ-Induced Diabetes Rats.


PUBLICATIONS

Books and monographs


Refereed Journals Articles


* McGrowder D, P. Brown and D. Ragoobirsingh (2006). Therapeutic Uses of Nitric Oxide donating Drugs in the


* Nichols S. D, Boyne MS, Thame M, Osmond C, Wilks RJ, Bennett FL, McFarlane-Anderson N, Young RE, Forrester TE. (2005) Cold-induced elevation of forearm vascular resistance is


**Other Peer Reviewed Publications/Abstracts**


INCOME GENERATION

Research Grants:

Professor Helen Asemota and Dr. Andrew Wheatley (Collaborator):

- Environmental Health Foundation – “Nutritional Supplement as a tool for harm reduction in illicit drug addiction: Derivation of mechanism of action in animal model”. J$300,000 for 2 years.

- Campus Committee for Research and Publication and Graduate Award for Curtis Green. “Metabolic assessment of the citrus peel PMFs on diabetes associated hypercholesterolemia in rats” US$2,000.

- Campus Committee for Research and Publication and Graduate Award for Dwayne Stennett. “In vivo metabolic effects of bitter yam (*Dioscorea polygonaide*) propriety preparation and organs integrity in animal models of hypercholesterolemia. US$1,554.00

Dr. Paul Brown:

- Campus Committee for Research and Publication and Graduate Award for Ewan Finlayson. “Molecular characterization of methicillin-resistant *Staphylococcus aureus* from UHWI”. US$1,529.10.

Dr. Maxine Gossell-Williams

– Sub-contract from University of North Carolina – “Choline supplementation and neurodevelopment study” US$58,299.00

Dr. Lisa Lindo:

– Campus Committee for Research and Publications and Graduate Award for Kesi Brown. “The effect of nitric oxide releasing compounds on the central nervous system, pre-eclampsia, platelet aggregation, blood glucose concentration and other haemodynamic parameters”. US$2,000.00.

– Campus Committee for Research and Publications and Graduate Award for Tashna Gentles “The isolation, purification and elucidation of the hypoglycaemic principle’s in Picrasma excelsa (Bitterwood)”. US$2,000.00.

– Campus Committee for Research and Publications and Graduate Award for Sophia Bryan “The Effects of Nitric Oxide Synthase (NOS) inhibitors on glucose metabolism and insulin levels in rats”. US$2,000.00.

Professor Norma McFarlane-Anderson

– New Initiative Funding – “Human Papilloma Virus (HPV) infection among pregnant and non-pregnant women in Jamaica. US$ 21,750.


– Campus Committee for Research and Publications and Graduate Award for Garfield Simon to visit to London Metropolitan University (LMU) for 3 three months to conduct research on phytoestrogen in common Jamaica foods. J$58,345.00. LMU also provided subsistence of Sterling 1000/month.

– Campus Committee for Research and Publications and Graduate Award for Angela Dawkins. “Phytoestrogen level in post menopausal women” US$2000.00

Dr. Wayne McLaughlin

– Coconut Industry Board, Jamaica. “Identification and characterization of insect vector(s) of lethal yellowing (LY) disease of coconuts in Jamaica” J$1,600,000.00.

– Ministry of Agriculture – Citrus Replanting Project “Research Services in Plant Pathology” (Jointly with Dr. Paula Tennant) US$29,600.00.

Dr. Omkar Parshad

– Campus Committee for Research and Publications and Graduate Award for Garsha McCalla. “Anti-Diabetic Properties of Neem (Azadirachta indica) leaf extract on STZ induced diabetic rats” US$722.33

Dr. Oswald Simon

– Campus Committee for Research and Publications and Graduate Award for Janet Shelly. “Investigation of pimento oil and eugenol on monoarthritic rats” US$600.00 and J$41,542.00

Dr. Paul Singh

– Campus Committee for Research and Publications and Graduate Award for Christopher Murray. “A preliminary investigation of possible apoptotic activity of fluvastatin on human prostatic adenocarcinoma”. US$2000.00

– Mark Grey “A pharmacological investigation of the hypotensive properties of manilkara zapotal” US$2000.00

Other income:

Summer School

– Introductory Biochemistry (BC10M) – $139,224.52

Consultancy Fund

– Rental of Lecture Theatres $367,758.69
PUBLIC SERVICE

Dr. Paul Brown
   – Member, Technical working group on Leptospirosis, Jamaica

Mr. Michael Gardner
   – Executive Member, Jamaica Historical Society

Dr. Kerith Golden
   – Vice Chairman, Stock Form Road Citizens Association, Golden Spring, St. Andrew
   – Member, Editorial Advisory Board for Stewarts Post harvest Review.

Dr. Maxine Gossell-Williams
   – Vice President, Optimist Club of North St. Andrew
   – Member, Pharmacology Section representative – Central Drug and Therapeutics Committee- Ministry of Health.

Professor McFarlane-Anderson
   – Member, International Proxy Parents – Education Committee
   – Member, Stella Maris HIV AIDS Ministry
   – Member, Friends of Foundation for International Self Help (FISH).

Dr. Wayne McLaughlin
   – Deputy Chairman, National Commission on Science and Technology, Jamaica - Biosafety Committee
   – Council Member, Jamaica Society for Agricultural Sciences

Dr. Dalip Ragoobirsingh
   – Chief Examiner, Caribbean Examination Council, CSEC Human & Social Biology.

Dr. Oswald Simon
   – Observer, Technical Advisory Committee for the CARICOM Drug Testing Laboratory

Dr. Paul Singh
CATEGORIES OF STUDENTS

Undergraduate degree programmes:

MBBS:
The Class of 2009 end of year examination pass rate was 78% and the Class of 2010 end of year examination pass rate was 66%.

BB Med Sci.
The first cohort of the BBMed Sci graduated. Dianne Laidley was awarded first class honours in Pharmacology and Marlon Jarrett was awarded an Upper Second Class honours in Pharmacology.

BSc Biochemistry/Biotechnology/Molecular Biology:
The following students were awarded first class honours:

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<thead>
<tr>
<th>Student</th>
<th>Field</th>
</tr>
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<tbody>
<tr>
<td>Kimberley Rudder</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>Kayann Nelson</td>
<td>Biochemistry/Zoology</td>
</tr>
<tr>
<td>Sean Swaby</td>
<td>Biochemistry/Zoology</td>
</tr>
<tr>
<td>Aisha Bailey</td>
<td>Biochemistry/Zoology</td>
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Postgraduate:
The following students were awarded the PhD degree in Biochemistry:

- Cliff Riley
- Lowell Dilworth
- Rachael Irving