FACULTY OF SCIENCE & TECHNOLOGY
Mona

Year ending July 31, 2014

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BSc (Hons), UWI, DPhil, *Sussex*, CChem, FRSC
ACTING DEAN

– *Dean's Overview* –

STUDENT ENROLMENT AND ACCESS TO FACULTY PROGRAMMES

The number of undergraduate students enrolled in our Faculty has grown over the period 2009–2014 as illustrated below. The increase in recent years is largely due to the determined follow up of new incoming students by Faculty Office staff. (See figure 1).

Graduation data show an increasing number of students earning honours degrees with proportionately less receiving pass degrees. (See figure 2).

Each Department of our Faculty continues to be innovative and flexible in dealing with the large student numbers by adding extra class and laboratory streams, including weekend and evening classes, and adding equipment to improve throughput in laboratory sessions.

MONA SCHOOL OF ENGINEERING

The Mona School of Engineering (MSE) was operationalized during academic year 2013/2014 to offer the Bachelors of Science in Civil Engineering, Computer Systems Engineering and Electronics Engineering. The first set of students was accepted to Civil Engineering and Computer Systems Engineering in September 2013, however, Electronics Engineering which started in September 2009 has accepted its sixth cohort. The

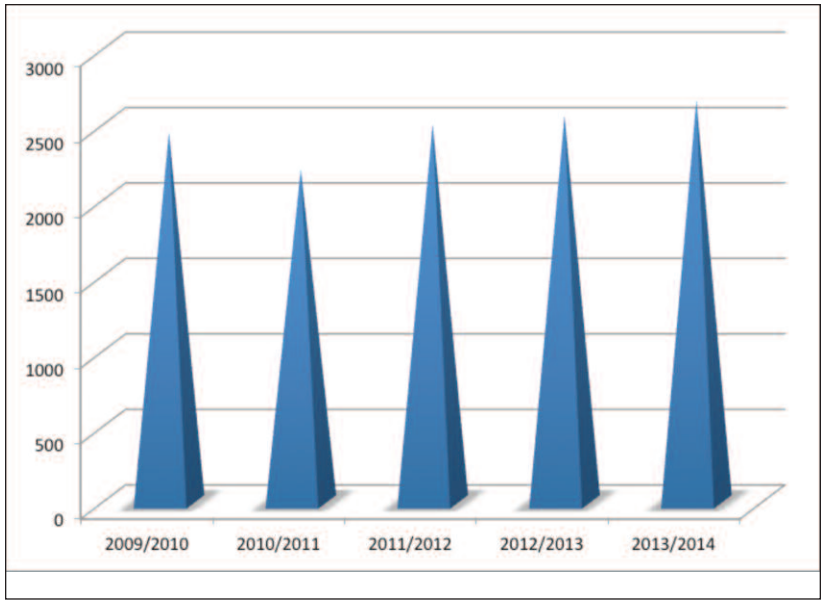

Figure 1: Number of registered students in the faculty

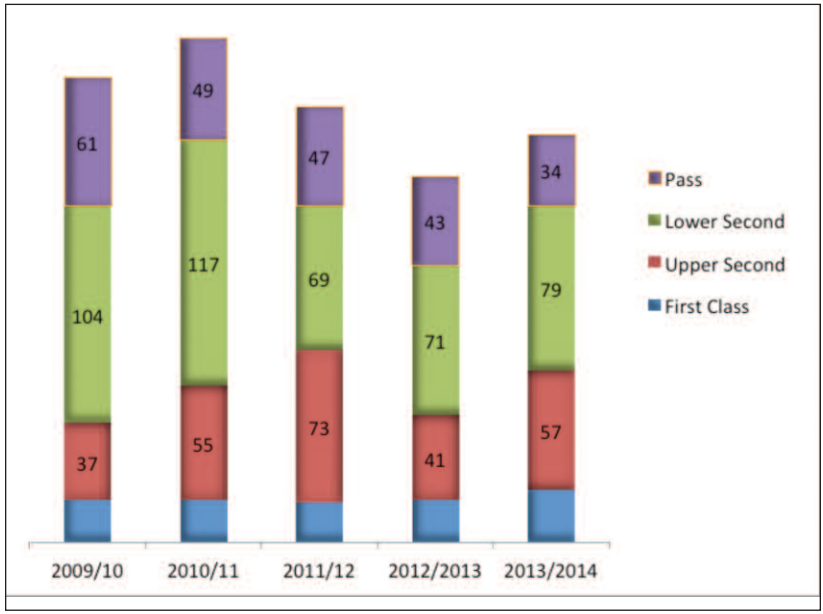

Figure 2: Number of Graduates and Degrees for the period 2009–2014

programmes are full-fee paying, and include a tablet and E-texts (prescribed books) for each student for all courses.

Student enrolment continues to increase in spite of the challenges of financing the tuition fees. The 2013/2014 enrolment statistics of students across the three engineering programmes is approximately 300 to date.

Five new academic staff, including a visiting Professor, were recruited from the Diaspora to commence teaching and research in academic year 2014/2015. The MSE is a self-financing organization with a Director that heads the school, full time and part time Academic, Administrative, Technical and other Support Staff. The MSE is strongly involved in academic activities within the Faculty of Science and Technology.

ANNUAL FACULTY AWARDS CEREMONY

The Faculty celebrated outstanding achievers for the 2012/2013 academic year on Thursday, March 27, 2014. A total of 237 students and 35 staff members, who exhibited excellence in academics and service, were awarded.

JAMAICA RHODES SCHOLAR

The University of the West Indies (UWI) Mona, once again won the prestigious Jamaica Rhodes Scholarship for 2014. Timar Jackson, a 24-year-old graduate of the Mona Campus of the UWI, was chosen from a field of nine short listed candidates, a very rigorous and challenging selection process. The holder of a First Class Honours degree in Actuarial Science, Mr. Jackson, a graduate of Vauxhall and Ardenne High Schools, is currently working as an Actuarial Analyst at Sagicor Life Jamaica Limited. He plans to pursue the Doctor of Philosophy degree in Mathematical and Computational Finance at the University of Oxford. This is the second year in a row that the Faculty of Science & Technology has copped this significant prize.

GRADUATE STUDIES

Student Registration: Total graduate student enrolment on the campus in 2013/2014 was 3,447, including 495 (14%) in research degrees. In that year there were 438 (9.7% increase) graduate students (50% female) registered in the faculty of which 174 (40%) were pursuing research degrees. Approximately 35% of MPhil/PhD candidates on the Mona Campus are in the FST.

Graduate Degrees Awarded: Graduate degrees awarded for 2012–2013 from the FST compared to the Mona Campus total included 11 of 39 PhDs, 9 of 18 MPhils and 28 of 713 taught masters.

ELSEVIER FOUNDATION AWARD

Research Fellow at the Natural Products Institute Dr Simone Badal-McCreath was one of five women chemists worldwide to be honoured with the Elsevier Foundation Awards for Early Career Women Scientists in the Developing World, for research that looked to Nature for ways of addressing cancer and other medical problems. Dr. Badal-McCreath's work covers the screening of Jamaican natural and synthetic compounds for potential anti-cancer and cancer-preventive properties. The anti-cancer research was conducted under the supervision of Dr. Rupika Delgoda. Dr. Badal-McCreath is a recent research graduate of the UWI.

ANTI-CANCER SCREENING LABORATORY

The Natural Products Institute (NPI) launched its Anti-Cancer Screening Laboratory, a dedicated facility for screening Jamaican/Caribbean natural products for their worth in treating and preventing cancer. The facility, which was opened by the Minister of Health, the Honourable Fenton Ferguson, at a public ceremony on April 29, 2014, is aimed at investigating cancer treatment and preventive value of Jamaican and eventually Caribbean natural products from various sources, including terrestrial and marine plants and microorganisms.

RADIOECOLOGY LAB

The official opening of the UWI Radioecology Laboratory in the Department of Physics was held on Thursday, February 6, 2014. This laboratory was established through collaboration of The University of the West Indies (UWI), The International Atomic Energy Agency (IAEA), and the Planning Institute of Jamaica (PIOJ).

MEMORANDA OF UNDERSTANDING

During the Calendar year 2013/2014, the Faculty of Science of Technology organized the signing of the following MOUs:

An MOA between the Ministry of Agriculture & Fisheries and the University of the West Indies.

This MOA sets out the terms by which the Ministry of Agriculture and Fisheries and The University of the West Indies will collaborate to introduce a new processing technology, a Cassava processing pilot plant from CLAYUCA, Colombia.

A General Agreement between the University of the West Indies and CLAYUCA Corporation. The MOU provides support for Collaboration and Cooperation in the following areas:

- Cassava production, processing and utilization technologies;
- Biofuel production in small scale, based on cassava, sweet potato and sweet sorghum as feedstocks;
- Introduction and evaluation of improved cassava germplasm;
- Human Resource Development.

An MOU between the University of the West Indies and the Jamaica Manufacturers' Association Limited.

The aim of the MOU is to explore and implement mutually rewarding viable initiatives focused on:

- Internship and apprenticeship of students;
- Collaboration in research, development and innovation projects;

- Identification of sponsorship or funding to facilitate activities under this and other subsequent agreements;
- Sharing of scientific information on areas of mutual interest in the context of the policies of both institutions;
- Development of training programmes;
- Supporting the development of policies;
- Establishing a Centre of Excellence to facilitate the sustainability of the collaboration;
- Other industry academic collaboration including curriculum and faculty exchange.

OUTREACH ACTIVITIES

The Faculty's Outreach Team visited a number of high schools across the island in parishes such as Kingston, Portland and St. James. A number of departments volunteered to assist with the recruitment of students. The faculty also hosted CXC workshops in Portland in May 2014 for students in the following subject areas: Mathematics, Physics, and Biology.

The Departments of Physics and Chemistry as well as the Electronics Unit hosted CAPE workshops on Campus in order to assist students in grasping some of the important science concepts, and to sensitize them towards university life and the competitiveness of getting into Science programmes at the UWI.

The FST also participated in the annual Denbigh Agricultural Show held August 1–3, 2014. The UWI, Mona used this opportunity to showcase its relevance to agriculture under our theme "UWI in Agriculture: Food Security and Climate Change", highlighting its national contributions via displays in research, product development and service. All participating Departments, Centres and Units mounted an impressive array of posters and interactive displays, and had readily available information on the offerings of the faculty, focussing especially on the Agriculture Entrepreneurial Programme. The other themes were "Animal Feed, Fertilizers and

Insecticides" (Department of Chemistry); "The Moringa Magic: exploring the Moringa plant's nutritional and medicinal potential" (Biotechnology Centre); "Shoreline Mitigation" (Centre for Marine Sciences); "The Smart House" which highlighted the potential for a non-grid connected home/frame base that can be set up at any convenient location with relative ease (Department of Physics); "Hydroponics Systems: an important technological step in the field of Agriculture" which showed the remote monitoring of crops (Mona School of Engineering in collaboration with the Department of Physics); display of aquariums and pest/natural enemy complex associated with a vegetable cropping system (Department of Life Sciences).

The Faculty participated in the "Relay for Life" event, for the second time, on June 14–15, 2014. The focus by the FST team for this year was Breast Cancer. The programme was coordinated to support the work of the Jamaica Cancer Society in its effort to raise funds to eliminate cancer as a major health problem in Jamaica. Some of the departments within the faculty are involved in cancer research in some way, from the discovery of molecules for treating cancer to the detection of the disease in humans. The booth provided such information and had displays that afforded an excellent opportunity for interaction with the public, educating them about various aspects of the Sciences and Cancer Research. The event represented a collaborative effort from personnel from all the departments who participated by raising funds, manning the booth and relaying at the event.

RESOURCE MOBILIZATION UNIT (RMU)

The unit was established to develop information that would assist the Campus to structure and resource its research and commercialization enterprise. The RMU will continue to support and lead the work of the Mona Office of Research and Innovation (MORI) in the faculty. In October 2013, the unit welcomed its new Coordinator, Dr. Chadwick Anderson.

Dr. Anderson led the negotiations leading to the signing of an MOU

between UWI & the Jamaica Manufacturers' Association (JMA). The RMU is also managing a Needs Assessment Survey of the JMA and a Capacity Analysis Survey of Local Universities to support Manufacturers. The surveys are being carried out by Prof. Ian Boxill and his team. The results will be used to establish funded projects and initiatives to be executed by the Faculty and broader University.

The unit has been exploring opportunities existing in the bilateral agreements between Jamaica and its partners. It has negotiated partial funding for a Cassava Crop Improvement Research Program to be jointly undertaken by the Department of Life Sciences & Ministry of Agriculture & Fisheries.

The RMU provided support to the establishment of the University's Cassava pilot plant that is located at Elim, St. Elizabeth.

The RMU provided support to grant projects/project proposals totaling over USD 3.7 Million. One project currently underway is the IDB Funded: Building capacity and Regional Integration for the Development of a Generation of Entrepreneurs in Sustainable Energy and Information and Communication Technologies (BRIDGE). The RMU has developed the framework for a grants database for which funding is currently being sought for its execution, and is currently seeking to commercialize a very promising patent that was developed at UWI.