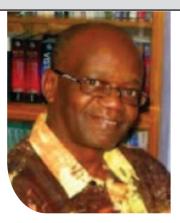# DEPARTMENT OF COMPUTING

**Dr. Ezra K. Mugisa**, PhD (London), DIC (Imperial College), CITP
**Head of Department**

## WORK OF THE DEPARTMENT

### New Programmes

We continued to offer the programmes indicated in the table on page 370 below. The new addition is the Postgraduate Diploma in Information Technology (PGDIT), which we started offering in September 2015 with a cohort of 14 students. It is aimed at those whose first degree is not in Computing.

The department was invited to work with others to develop the new BSc Software Engineering (Mobile Application Development). This is a programme to be offered by the newly established UWI-China Institute of Information Technology (UWICIIT), through the Faculties of Science and Technology, in collaboration with the Global Institute of Software Technology (GIST) of Suzhou China. The scheduled start of this programme is 2016/17.

| Programme | Majors | Minors |
|---|---|---|
| BSc (General) | • Computer Science<br>• Software Engineering | • Computer Science<br>• Software Engineering<br>• Information Technology |
| BSc Information Technology (also offered at WJC) | | |
| BSc Computer Systems Engineering (with Mona School of Engineering) | | |
| Postgraduate Diploma in Information Technology | | |
| MSc Computer Science | | |
| MSc Computer-Based Management Information Systems (with Mona School of Business and Management) | | |
| MPhil/PhD Computer Science | | |

## QUALITY ASSURANCE REVIEW

A quality assurance review of the department was carried out over the period, from April 10 to April 15. Here is a short extract from the report of the review team: "In general, the team is satisfied with the quality of the program, and would like to commend the department, including staff, administrators, and students, on their efforts in times of financial constraints and the overall morale we observed." The team made 34 recommendations.

### UWI Mona Western Jamaica Campus

We continue to offer the BSc IT programme at WJC. However, the number of students has not grown as we would have liked. We have

identified a number of challenges that may have contributed to this situation and are seeking to rectify them in order to get a substantial intake in 2016/17. We continue to encounter serious challenges in accessing streaming equipment for delivery of our courses to WJC. In this regard we are looking at using alternative technologies to give our WJC students a high quality experience.

### Staffing

The department continues to have a cohort of 12 full-time staff: 1 Professor, 3 Senior Lecturers, 6 Lecturers, and 2 Assistant Lecturers. We also have one Special Instructor based at the WJC.

### Renewal of Contract and Promotions

Professor Kweku-Muata Osei-Bryson continues to strengthen our research programme through student supervision and mentorship of junior staff. His contract as Visiting Professor was renewed for two more years.

We got our first home-grown professor when Dr. Daniel Coore was promoted to the rank of Professor in February 2016. We congratulate him!

Dr. Gunjan Mansingh was promoted to Senior Lecturer and Mr. Ricardo Anderson was promoted to Lecturer.

### PUBLICATIONS

The department's research output amounted to 10 refereed publications in journals and conference proceedings as indicated below:

### Journal Articles

- **Ewedafe S. U,** & Rio H. S. "Parallel Domain Decomposition for 1-D Active Thermal Control Problem with PVM." *International Journal of Advance Computer Science and Applications (IJACSA),* Vol. 6. Issue 10, (2015) pp. 94–100

- **D. T. Fokum, D. N. Coore, and C. Busby-Earle,** "Learner Autonomy as a Means to Improve Pass Rates among First-Year Computing Students," *The UWI Quality Education Forum*, vol. 21, pp. 1–19, Jan. 2016

- **Anderson, Ricardo, and Gunjan Mansingh**. "Towards a Comprehensive Process Model for Transitioning MIS to KMS." *International Journal of Knowledge Management (IJKM)* 12, no. 1 (2016): 1–17.

## PEER-REVIEWED CONFERENCE PROCEEDINGS

- **Anderson R.** and **Mansingh G.** "KMI-IWS: Towards a Framework for a Knowledge Management Initiative Intelligent Work-Flow System." The Eighth International Conference on Advanced Cognitive Technologies and Applications, COGNITIVE 2016, March 20–24, 2016 – Rome, Italy

- **Ewedafe Simon Uzezi** 2016. "On the Parallel Domain Decomposition for 1-D Active Thermal Control Process using Three-Leveled Implicit Discretization Scheme with PVM." 7th International Conference from Scientific Computing to Computational Engineering (7th -IC-SCCE), Athens, Greece, 6–9 July, 2016

- **Busby-Earle, Curtis**, and Robert B. France. "Discovering Potential Interaction Violations among Requirements." In International Conference on Advanced Information Systems Engineering, pp. 243–253. Springer International Publishing, 2016.

- John, S. and **Busby-Earle, C.**: "The Random Gate Principle." In Proceedings of the Ninth International Conference on Emerging Security Information, Systems and Technologies, Venice, Italy, August 2015

- **Fokum, Daniel T., Daniel N. Coore**, and Yewande E. Lewis-Fokum. "The Performance of Female Computer Science Students across Three Caribbean Islands." In Proceedings of the 47th ACM Technical Symposium on Computing Science Education, pp. 419–424. ACM, 2016.

- Cadet, Frantz, and **Daniel T. Fokum**. "Coping with denial-of-service attacks on the IP telephony system." In *SoutheastCon*, 2016, pp. 1–7. IEEE, 2016.
- Anuli, Stacy-Ann A., and **Daniel T. Fokum**. "Implementation of an internal food traceability application for local farmers in Jamaica." In *SoutheastCon*, 2016, pp. 1–3. IEEE, 2016.

## PUBLIC SERVICE

### Ricardo Anderson

– Reviewer, *Knowledge Management Research and Practice Journal*, 2015

### SimonEwedafe

– Member, Editorial Board for *Journal of Agriculture and Life Sciences*

– Member, American Association for Science & Technology (AASCIT)

– Member, International Association of Computer Science & Information Technology (IACSIT)

– Member, The Science and Information Organization (SAI)

– Member, Scientific Committee, 7th-IC-SCCE International Conference, Athens, Greece 2016

– Reviewer, *International Journal of Advanced Computer Science and Applications (IJACSA)*

– Reviewer, *International Journal of Electrical Power & Energy System* (IJEPES)

– Reviewer, *Journal of Supercomputing*

– Reviewer, *International Journal of Advanced Research in Artificial Intelligence (IJARAI)*

### Daniel Fokum

– Reviewer, *IEEE Transactions on Vehicular Technology*

– Reviewer, *IEEE SoutheastCon*

**Gunjan Mansingh**

– Member, Editorial Review Board, *International Journal of Knowledge Management,* IGI Publishing.

## INCOME GENERATION

We continued to run a number of income-generating activities as shown in the figure below:

| Programme/Activity | Income | Expenditure | Net Income |
|---|---|---|---|
| MSc Computer Science | 4,332,000.00 | 7,717,409.97 | -3,385,409.97 |
| MSc CBMIS | | | Not available |
| Cisco Networking Academy | 1,586,642.94 | 1,428,733.55 | 157,909.39 |
| Summer School | 2,549,674.00 | 1,838,186.52 | 621,487.48 |
| Consultancy | 476,443.16 | 57,740.00 | 418,703.16 |
| Grants (New Initiative Grant) | 1,496,410.00 | | |

## STUDENTS

### Student Throughput

The table on page 375 shows a breakdown of the number of students who graduated from the various programmes we offer:

### Student Awards and Prizes

The Karl Robinson Award was won by Mr. Christopher Derrell with the value of the award being J$40,000.00. The award is given to the student with the highest average in the first year, second year and Semester I of the third year Computer Science courses.

Mr. Ritesh Reddy was the recipient of the Lloyd G. Grandison Award for the best student in Computer Science major with the value of the award being J$30,000.00.

Miss Debrah-Ann Rosewelt was the winner of the SAGICOR Award for the best student in the Internship course with the value of the award being J$20,000.00.

**Table 1:** Number of Students Graduated form Various Programmes

| Programme | Faculty | Gender | 1st Class | 2nd Class (upper) | 2nd Class (lower) | Pass | Total |
|---|---|---|---|---|---|---|---|
| BA(CS) | FHE | M | 5 | | 12 | 5 | 22 |
| | | F | | | 221 | | 21 |
| | | Total | **5** | | **33** | **5** | **43** |
| BSc (CS) | FST | M | | | | | |
| | | F | | | | | |
| | | Total | | | | | **n/a** |
| BSc (SWEN) | FST | M | | | 1 | | 1 |
| | | F | | | 5 | | 5 |
| | | Total | | | **6** | | **6** |
| BSc (IT) | FST | M | 4 | | | **1** | 5 |
| | | F | | | | **2** | 2 |
| | | Total | 4 | | | **3** | **7** |
| MSc (CS) | FST | M | | | | 7 | 7 |
| | | F | | | | 2 | 2 |
| | | Total | | | | **9** | **9** |
| MSc (CBMIS) | FST/FSS | M | | | | | |
| | | F | | | | | |
| | | Total | | | | | **n/a** |
| MPhil | FST | M | | | | | |
| | | F | | | | 1 | 1 |
| | | Total | | | | **1** | **1** |
| PdD | FST | M | 2 | | | | **2** |
| | | F | | | | | |
| | | Total | **2** | | | | **2** |