

DEPARTMENT OF COMPUTING



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WORK OF THE DEPARTMENT

Curriculum Review

The ongoing curriculum review effort resulted in three minors, one revised and two new ones. The minor in Computer Science was revised to put it in line with the revised majors and two new minors – Software Engineering and Information Technology – were added. These are available as of 2015/16. Efforts were made to revive an old dormant programme – the Postgraduate Diploma in Information Technology (PGDIT). This is on offer as of 2015/16 and is being revised in line with the other revisions we have made. We now have the following programmes, majors and minors on offer during 2015/16:

Department of Computing

Programme	Majors	Minors
BSc (General)	<ul style="list-style-type: none">• Computer Science• Software Engineering	<ul style="list-style-type: none">• Computer Science• Software Engineering• 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		

WESTERN JAMAICA CAMPUS

We are on course to have our first graduate from the BSc IT programme at WJC and he is likely to get a First Class degree. Congratulations to the hard-working team at WJC which includes Ricardo Anderson and Devon Stoddart from the Department of Computing. We continue to encounter serious challenges in accessing streaming equipment for delivery of our courses to WJC.

Staffing

We regrettably lost one of our two Visiting Professors. Prof. Robert France of Colorado State University, who was born in Jamaica of Vincentian parents, died in March 2015. A graduate of UWI (St.

Augustine) and world-renown Software Engineer specializing in Software Modelling, he contributed selflessly to the Department for many years. We miss him even as he is resting in peace.

Professor KwekuMuataOsei-Bryson continues to strengthen our research programme through student supervision and mentorship of junior staff.

Two members of staff, Drs. Ashley Taylor and Daniel Coore, were on sabbatical leave during 2014/15. They were replaced by Mrs. Careene Rodney and Mr. Dean Jones and although we missed them their replacements did a good job. Dr. Hamilton-Taylor spent six months in Ethiopia and three months in the USA.

Miss Kerry-Ann Wilkinson, secretary, resigned and went abroad to pursue engineering studies. She was replaced by Miss Ka-Sheena Minott.

PRESENTATIONS AT ACADEMIC CONFERENCES

- McNaughton M, Mansingh G. and Rao L. (2015). Business Intelligence as an Enabler for Corporate Transformation. 6th Annual MSBM Roundtable on “Organizational Renewal, Transformation and Growth”, June 24, 2015, Kingston, Jamaica.
- Mansingh G., Osei-Bryson K.M. and Asnani M. (2014). Using a data mining process model – Taking data analysis beyond statistical techniques, poster presentation, Commonwealth Science Conference, Royal Society, November 25–28, 2014, Bangalore, India.

PUBLICATIONS

Chapters in Books

- Anderson, Ricardo, and Gunjan Mansingh.”KIISA: Towards a Reference Architecture for Integrated Knowledge Services.” In *Intelligent Systems*, 2014, pp. 247–257. Springer International Publishing, 2015.

Journal Article

- Anderson, Ricardo, and Gunjan Mansingh. "Data Mining Approach to Decision Support in Social Welfare." *International Journal of Business Intelligence Research (IJBIR)* 5, no. 2 (2014): 39–61.
- Anderson, Ricardo, "A Model for Data-driven Knowledge Creation and Improved Accountability in Jamaican Public Schools through ICTs" *The International Journal of Educational Organization and Leadership* 21, no. 2 (2015): 1–7.
- Ewedafe S. U, & Rio H. S. "Distributed Cluster Computation for 2-D Telegraph Problem with MPI *Modified*." *Canadian International Journal of Science and Technology* Volume 2, pp. 211–218
- Ewedafe S. U, & Rio H. S. 2014. "Domain Decomposition of 2-D Bio-Heat Equation on MPI and PVM Clusters." *International Journal of Emerging Trends & Technology in Computer Science (IJETTCS)*, Vol. 3. Issue 5, pp. 102–115, Impact Factor 2014 = 3.258
- Mansingh, Gunjan, Kweku-Muata Osei-Bryson, and Monika Asnani. "Exploring the antecedents of the quality of life of patients with sickle cell disease: using a knowledge discovery and data mining process model-based framework." *Health Systems* (2015).

Peer-reviewed Conference Proceedings

- Anderson, Richard, Stascia Gordon, and Gunjan Mansingh. "An assessment of the potential impacts of knowledge-driven decision support in social welfare." In Global Humanitarian Technology Conference (GHTC), 2014 IEEE, pp. 499–505. *IEEE*, 2014.
- Anderson, Ricardo, and Gunjan Mansingh. "KIISA: Towards a Reference Architecture for Integrated Knowledge Services." In *Intelligent Systems*, 2014, pp. 247–257. Springer International Publishing, 2015.
- Ewedafe S. U. "Parallelization of 2-D ATCP with Parallel Virtual

Machine.” In *International Conference on Applied Science, Engineering and Technology* (ICAE 2015), Lynbrook New York, U.S.A. 11th - 12th April 2015

- Ewedafe S. U. “Parallel Domain Decomposition for 2-D ATPC with SOR Scheme on Parallel Virtual Machine”. In *International Conference on Business, Applied Science and Technology* (ICBAT 2015), Humber College, Toronto, Canada 4th–5th May 2015
- Ewedafe S. U., & Rio H. S. 2014. “Distributed Cluster Computation for 2-D Telegraph Problem with MPI.” In *International Conference on Advances in Computer Science, Engineering & Architectures* (ICCEA 2014), Simon Fraser University Vancouver – Canada 19th –20th November 2014.
- A. O. Drummonds and D. T. Fokum, “Towards analysing the effects of node mobility on the accuracy of Wi-Fi triangulation,” in *SoutheastCon* 2015, Ft. Lauderdale, FL, USA: IEEE, April 2015, pp. 1–7.
- Beckford, Carl, and Ezra Mugisa. “Learning Management Systems—The Current Picture.” In *World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education*, vol. 2014, no. 1, pp. 153–163. 2014.
- Carl Beckford & Ezra Mugisa, “Learning Management Systems – The Current Picture”, E-Learn 2014 – World Conference on E-Learning, New Orleans, LA, USA, October 27–30, 2014.
- Miller K. and Mansingh G. (2015). Comparing the use of Mobile Intelligent Agents vs Client Server Approach in a Distributed Mobile Health Application. In proceedings of 4th International Conference on Database and Data Mining (ICDDM 2015), Chicago, USA, July 2–4, 2015.
- Uwaoma, Chinazunwa, and Gunjan Mansingh. “Towards real-time monitoring and detectime monitoring of asthma symptoms on resource-constraint mobile device.” In *Consumer Communications and Networking Conference (CCNC)*, 2015 12th Annual IEEE, pp. 47–52. *IEEE*, 2015.

- Beckford, Carl, and Ezra Mugisa. “Learning Management Systems—The Current Picture.” In *World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education*, vol. 2014, no. 1, pp. 153–163. 2014.
- Gaynor, Paul, and Daniel Coore. “Distributed face recognition using collaborative judgement aggregation in a swarm of tiny wireless sensor nodes” In *SoutheastCon 2015*, pp. 1–6. IEEE, 2015.

SCHOLARLY ACTIVITIES

Ricardo Anderson

- Reviewer: Knowledge Management Research and Practice Journal, 2015

SimonEwedafe

- Member of Editorial Board for *Journal of Agriculture and Life Sciences*
- Reviewer and Member: *International Journal of Computer Sciences and Engineering (IJCSE)*, 2014.
- Reviewer: *International Journal of Electrical Power & Energy System (IJPES)*, 2014
- Member: American Association for Science & Technology (AASCIT)

Daniel Fokum

- Reviewer: *IEEE Communications Magazine*
- Reviewer: IEEE SoutheastCon 2015
- Proctor: IEEEExtreme Programming Competition (2014).
- Coach: ACM Intercollegiate Programming Competition (2014).
- One of 200 young researchers invited to participate in the 3rd Heidelberg Laureate Forum, a forum where 200 young researchers are invited to a five day academic session with winners of the ACM A.M. Turing Award, Abel Prize, Fields Medal, and Rolf Nevanlinna Prize.

- SIGCOMM 2015 travel grant. Award=\$2000.
- SIGCSE 2015 travel grant. Award=\$500 + registration fee.

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	13,373,772.91	9,068,203.36	4,305,569.55
Cisco Networking Academy	1,786,000.00	1,917,921.11	-131,921.11
Summer School	2,340,171.00	1,602,114.90	738,056.80
Consultancy	837,137.88	60,000.00	777,137.80

STUDENTS

Student Throughput

The table on page 361 shows a breakdown of the numbers of students who graduated from the various programmes we offer:

Student Awards and Prizes

The Karl Robinson Award was won by Mr. Ritesh Reddy 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.

Our students won the AgriHack Talent Caribbean competition

Eight teams of young application developers, coming from six Caribbean countries took part in the Regional Finals of the AgriHack Talent

Department of Computing

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			4	2	6
		F		1	2		3
		Total		1	6	2	9
BSc (CS)	FST	M	3	3	7	6	19
		F	1	4	2		7
		Total	4	7	9	6	26
BSc (SWEN)	FST	M			1		1
		F					
		Total			1		1
MSc (CS)	FST	M				7	7
		F				2	2
		Total				9	9
MSc (CBMIS)	FST/FSS	M	9			3	12
		F	11			7	18
		Total	20			10	30
MPhil	FST	M					
		F				1	1
		Total				1	1

competition at the Caribbean Week of Agriculture in Paramaribo, Suriname from 5–9 October 2014. The competition was won by team Node420 from our department. Team members were Orane Edwards and Jason Scott. Their product, also called Node420, can provide real-time weather analysis for more accurate weather forecasts; this app includes a hardware that is an additional point of information for farmers who are interested in maximizing the productivity of their farm. Yield estimate forecasts are made based on algorithms that take several data sources into account. For their efforts they won 5,000 Euros plus six

months of incubation. We entered two teams in the competition, and they were accompanied to Suriname by their mentor Dr. Curtis Busby-Earle.

The AgriHack Talent Caribbean was organised by the Technical Centre for Agricultural and Rural Cooperation (CTA), a joint international institution of the African, Caribbean and Pacific (ACP) Group of States and the European Union (EU). CTA's mission is to advance food and nutritional security, increase prosperity and encourage sound natural resource management in ACP countries.