

MONA SCHOOL OF ENGINEERING



Dr. Paul Aiken, BSc. MPhil. *UWI*, MSc. PhD *Columbia University*
Head of School

OVERVIEW

The Mona School of Engineering (MSE) was operationalized during academic year 2013–14 to offer the Bachelors of Science in Civil Engineering, Computer Systems Engineering and Electronics Engineering. The first cohort 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 6th cohort. The programmes are full-fee paying with a tuition of US\$10,000 per year and includes a computer tablet and E-texts (prescribed books) for all courses.

The vacated buildings of the Department of Basic Medical Sciences became the home of the School of Engineering and renovation began in summer 2013 to accommodate engineering laboratories, lecture rooms, student project rooms and offices. Renovation is being done across three phases, and phase 1 and parts of phase 2 have been completed.

Student enrollment continues to increase in spite of the challenges of

financing the US\$10,000 tuition that was implemented in academic year 2013–2014. Five (5) 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 teaching staff, administrative, technical and other support staff. The MSE is strongly involved in academic and commercial activities to the extent that a full business entity to manage the commercial activities has been approved with expected start date of October 1, 2014.

ENROLLMENT STATISTICS

Table 1 shows the 2013–2014 application and enrollment statistics of new students across the three engineering programmes. A significant number of applicants apply for more than one engineering programmes so the total of 442 may be approximated to about 300 individuals. Table 2 shows the enrollment data collected during the first week of the semester for academic year 2014–2015.

Table 1: Enrollment statistics for academic year 2013–2014 for new students (Level 1)

Programme	No. of Applicants	No. of Offers	No. Accepted	No. Registered
Civil Engineering	92	34	16	12
Computer Systems Engineering	62	15	8	3
Electronics Engineering	288	80	44	27
Total	442	129	68	42

Mona School of Engineering

Table 2: Enrollment statistics for academic year 2014–2015 for new students (Level 1)

Programme	No. of Applicants	No. of Offers	No. Accepted	No. Registered
Civil Engineering	254	108	74	36
Computer Systems Engineering	195	37	24	12
Electronics Engineering	215	69	43	23
Total	664	214	141	71

STAFFING

Five PhD engineering candidates were recruited from the Diaspora to join the academic staff of MSE. They were all encouraged to keep their international contacts and to create collaborative partnerships. They will be allowed special flexibility to facilitate such partnerships during their UWI tenure. Academic staff who were recruited during 2013–2014 :

- **Haniph Latchman**, Visiting Professor for 2014–15, Oxford (Rhode Scholar)
- **Tania Henry**, Lecturer (Engineering/Physics), Yale University
- **Nicolas McMorris**, Lecturer (Civil Engineering), University of Maryland
- **Kirk Spence**, Lecturer (Electronics & Computer Engineering), Louisiana State University
- **Omar Thomas**, Lecturer (Civil Engineering), Florida State University

During 2013–14, all staff of the Electronics Unit were transferred into the MSE. The complete staff complement that are expected to be available for 2014–15 is shown in Table 4.

Table 4: MSE Full Time staff for 2014–15 after recruitment and transfers during 2013–14

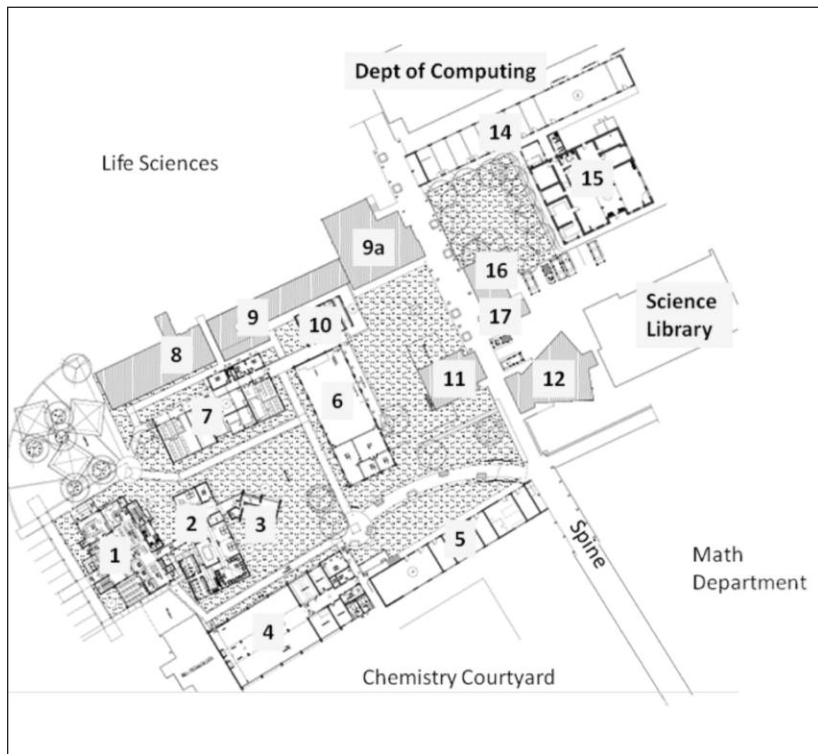
Category	Position (s)	Current Staff
Head of School	Director	Dr. Paul Aiken
Academic Staff	Visiting Professor (Electrical Engineering)	Prof. Haniph Latchman
	Civil Engineers	Dr. Omar Thomas, Dr. Noel Brown (JenTech) Dr. Nicolas McMorris
	Electronics/Electrical/ Computer Engineers	Tania Henry, Kirk Spence
Administrative Staff	Senior Administrative Assistant	Ms. Suchetta Stephenson
	Administrative Assistant	Ms. Shanique Gray
	Customer Service Representative	Ms. Tena Williams
Technical	Senior Engineer	TBA
	Electronics Engineer	Mr. Lindon Falconer
	IT Technician	Mr. Stephan Anderson
	Electronics Technologist	Mr. Errol Brown
	Electronics Technologist	Mr. Joseph Brooks
	Machinist/Electromechanical Technician	Mr. Gowan Thompson
Ancillary	Cleaning staff/Office Attendant	Ms. Pamela Johnson
	Cleaning staff/Lab Attendants (2)	TBD
	Handyman/bearer (1)	TBD

Mona School of Engineering

A large contingent of part time and adjunct lecturers contribute significantly to the teaching of the engineering courses. The part time staff are from a wide cross section of industry including, industrial controllers and electrical engineering consultancy firms, JenTech Consultants, Television Jamaica (TvJ), JDF, law firms, and other engineering and business sectors. Adjunct staff are sourced from departments within the FST, particularly Physics, Computing, Mathematics and Faculty of Engineering in St Augustine.

INFRASTRUCTURE AND EQUIPMENT

The vacated buildings of the Department of Basic Medical Sciences have been re-assigned to the Mona School of Engineering. The map below shows the layout of these building and the surrounding Departments within FST.



The following list of equipment have been ordered and are expected to be delivered and installed during 2014–2015:

- IT Switches, wireless routers and accessories
- Equipment for Civil Engineering labs: Fluids Lab, Materials and Soils
- Equipment for Electronics Engineering lab
- 90 Dell computers

LIBRARY AND TEXT BOOKS

The Science Library has created a special space to accommodate engineering books and other reading materials. Physical books and electronic books are being sourced and will add to the already existing stack.

As part of the tuition package, each full-fee paying engineering student is supplied with a Kindle Fire Tablet and rental copies of E-Books for every course across the 3-year engineering programme. The MSE through UWI E-Test formed a contractual arrangement with Pearson Publishers to supply the required E-Text. These are supplied on a 6 month rental and access codes are given to students at the start of each semester. Whenever the required text cannot be sourced by Pearson then a one-off arrangement is made with other publishers, such as John Wiley & Son.

OUTREACH

The MSE continues outreach activities via partnerships with the Physics Department, the Faculty of Science and Technology and the UWI Mona recruitment team. This activity will increase during 2014–2015, and will include open-house activities to showcase student final year projects and engineering research.

COMMERCIAL OPERATION

The MSE continued the commercial operation of the Electronics Unit, with primary maintenance of biomedical equipment for the University

Hospital of the West Indies (UHWI). This commercial activity has been formalized into a corporate business entity, Mona Technology Engineering Services, with start date slated for October 1, 2014. MTech will employ engineering graduates of MSE and will specialize in the following areas of local, regional and international services:

1. Maintenance of Equipment and Engineering Systems
2. Research and Development
3. Engineering Support and Consultancy
4. Manufacturing
5. Training (overlap with MSE)

INDUSTRIAL PARTNERS AND COLLABORATORS

The MSE has developed a very strong partnership with JenTech Consultants for the support and delivery of the BSc Civil Engineering programme, and with the HEART NTA for providing advanced certification training to 2nd and 3rd year Electronics Engineering students. MSE is in the process of implementing formal partnerships with:

- Advanced Integrated Systems (AIS) for training engineering student interns to install and maintain ICT products. The students are expected to transition as junior engineers into MTech where maintenance services will be provided to AIS.
- Jamaica Defence Force (JDF) for providing summer internships and artisan training to engineering students. Special arrangements will be made to accommodate qualified JDF staff into the Mona engineering programmes.
- The University of Florida for collaborative research and teaching. Discussions have already started with Visiting Professor, Haniph Latchman.
- Biomedical International Corporation (BIC) and General Electric (GE) for engineering support to the maintenance of biomedical instruments. This will be predominantly taken over by MTech.

- Jamaica Public Service Company (JPSCo) has agreed to support the BSc in Electrical Power Engineering that will be proposed for startup date in 2015–16. Lab equipment and simulation software selection and sourcing have been discussed.

A very strong collaborative partnership exists between the MSE and the Faculty of Engineering, St. Augustine, and the Faculty of Science and Technology, Mona.

INTERNSHIPS AND TRAINING

The MSE has partnered with HEART NTA and the JDF to offer summer training and internships, respectively. Since summer 2013, level 2 and 3 Electronics Engineering students have received HEART NTA certification as Advanced System Administrators. Thirty-nine (39) students completed the programme and eleven (11) attended the HEART NTA graduation ceremony on November 21, 2013. This collaboration was accommodated under the existing MOU between the UWI Mona and HEART NTA, and was facilitated through the Faculty mobilization office.

Seven (7) Level 1 Civil Engineering students were successfully employed as interns over summer 2014 with some being employed for a six week duration across different companies. Some of the participating companies are:

- The Jamaica Defence Force (JDF)
- The National Road Operation and Construction Company (NROCC)
- China Harbour Engineering Company
- JAMALCO (work-study programme)
- Caribbean Cement Company

Students were also employed to other companies via their usual summer internship programmes.

EMPLOYMENT STATISTICS

The MSE has implemented a tracking mechanism for all its graduates. The information collected and stored will be required for accreditation purposes. More than 70% of the engineering graduates of 2014 are already employed. Full data collection will be completed shortly.

SEMINARS/WORKSHOP/FORUM/SYMPOSIUM

Dr. Paul Aiken

- Panelist, STEM forum on Education, Theme: The Implementation of Science Technology Engineering & Mathematics (STEM) Education: Opportunities and Challenges; UWI Mona Western Jamaica Campus; April 12, 2014.
- Discussant to Professor Gordon Shirley's Presentation; Logistics Hub Symposium, Part 1; UWI Regional Headquarters; November 9, 2013.

Mr. Lindon Falconer

- Poster presentation PhD research at UK Speech Conference, University of Edinburgh, UK (June, 2014), title: "Modelling hearing impaired-listeners' perception of speaker intelligibility in noise"
- Attended workshop on Speech Synthesis for Psychoacoustic and Phonetics research at the University of Edinburgh, UK from July 8–9.
- Attend University of Sheffield Engineering Symposium June 23, University of Sheffield, UK.

PUBLIC SERVICE

Dr. Paul Aiken

- Member, Continuing Education Committee of the Professional Engineering Registration Board (PERB)
- Senior Member, Institute of Electronics and Electrical Engineers (IEEE)