

DEPARTMENT OF CHEMISTRY



Dr Roy Porter, BSc, PhD, *UWI*
Head of Department

OVERVIEW

The 2014/2015 academic year was a very productive one. The M.Sc. Food and Agro-Processing Technologies (FAPT) programme welcomed its fourth cohort, which was comprised of fourteen (14) students. The M.Sc. Occupational Environmental Safety and Health (OESH) programme continued to perform well, thus cementing its impact in the discipline. Initiatives such as the Peer-Led Team Learning (PLTL) and CAPE Workshops have helped to improve learning experiences among participants.

Throughout the year, members of the academic staff were involved in a number of conferences and made a significant contribution to education in Jamaica through outreach initiatives (both internally and externally). Through tireless effort, the Department of Chemistry celebrated the start of the Undergraduate Student Chapter of the American Chemical

Society (ACS) for the Caribbean region. The department also birthed the Chemistry Honours Society, which was our way of acknowledging excellent academic performance of our students. In March 2015, twenty-four (24) students were inducted and they have continued to perform at a high standard.

At the end of the academic year, thirty-six (36) students graduated with B.Sc. degrees in Chemistry, four (4) of which received first class honours. Five (5) students graduated from the B.Sc. OESH programme. At the postgraduate level, fifteen (15) students graduated with M.Sc. OESH degrees, four (4) graduated from the M.Sc. FAPT programme and eight (8) awarded research degrees (three MPhils and five PhDs).

HIGHLIGHTS OF MAJOR ACTIVITIES

Staff Movements

Dr. Winklet Gallimore was promoted to the post of Senior Lecturer as at 1st August, 2014. Dr. Marvadeen Singh-Wilmot proceeded on Sabbatical Leave and was replaced by Dr. Kerry-Ann Green. Dr. Anthony Greenaway and Prof Henry Ellis retired during the academic year; as such, the Department welcomed Dr. Debbie-Ann Gordon Smith, Lecturer – Analytical Chemistry. Mr Charles Grizzelle succeeded Ms Simone Williams as Administrative Assistant for the MSc FAPT programme upon her resignation from the post. The Department also welcomed Ms. Toni-Ann Pinnock (Secretary III) during the academic year.

NEPA Visible Emissions Training

The Department of Chemistry hosted two Visible Emissions training courses (Smoke Schools) which were conducted by The National Environment and Planning Agency (NEPA) on the 20th January and 21st July 2015. This training is administered by Eastern Technical Associates (ETA) from the USA; ETA is a United States Environmental Protection Agency (US-EPA) certified training institution. Three (3) members of the Department of Chemistry participated in the second

staging of the course. The skill set developed in these courses is recognized internationally.

CAPE Workshop

During the period 12th–16th January, 2015, the Department held another successful series of Chemistry workshops on Spectroscopy and Chromatography for the Caribbean Advanced Proficiency Examinations (CAPE) students. A total of 1,124 students and 54 teachers from 49 schools participated. The Kingston Bookshop donated complementary copies of the book *Chemistry for CAPE* as a promotional thrust. The participating schools were very pleased with the donations. Based on the feedback from teachers and students, the workshop presentations and materials were very well received and most expressed gratitude to the Department for this outreach effort. Professor Helen Jacobs and Dr. Novelette Sadler- McKnight met with the teachers separately to discuss issues pertaining to CAPE Chemistry instruction as well as aspects of the syllabus that they might have needed assistance with. A complimentary copy of the textbook *Chemistry for CAPE Examination* which Professor Jacobs and Dr. Sadler-McKnight contributed chapters to, was also distributed to each school. As in previous years, this workshop was coordinated by Dr. Novelette Sadler-McKnight. Mrs. Mitzie Samuels was very instrumental in ensuring that the administrative processes were smooth.

Physical Plant

In an attempt to ensure that the department's facilities were on par with the excellence espoused by the University of the West Indies, members of staff and graduate students put their energies and efforts into a Labour Day project which sought to beautify the surroundings. Given the scarcity of resources, sponsorship was sought and donations of paints, which were graciously received, were used to enhance the department.

Safety

On 26th February, 2015 the Department's Safety Committee held a workshop organized mainly for its service staff on the topic of Occupational Safety. Mr. Allan Sappleton, certified Occupational Safety and Health Administration (OSHA) Trainer and OESH PhD candidate, made a presentation entitled "The Fundamentals of Occupational Safety". This was the first in a series of workshops and the Committee is optimistic that these sessions will improve the quality of safety procedures and practices.

FAPT Workshops

The M.Sc. Food and Agro Processing Technology programme hosted a Food Microbiology Workshop, 29th–30th January, 2015. Dr. Lawrence Goodridge, Associate Professor, Department of Food Science and Agricultural Chemistry at the McGill University, led the sessions as Guest Lecturer. Over these two days, there were 17 participants from companies such as Wisynco Group, GK Foods and Services Limited and Nestle Jamaica. On 2nd February, the workshop was however taken onsite at the Dairy Industries. There were 10 participants at this sitting. Additionally, the FAPT programme hosted a Food Safety Workshop, 27th–28th July. Ms. Maxine Hoffman, a Senior Food Storage Inspector from the Food Storage and Prevention of Infestation Division in the Ministry of Industry, Investment and Commerce, was the Guest Presenter.

DEPARTMENT SEMINARS

Under the leadership of the Seminar Coordinator, Dr. Nadale Downer - Riley, members of the department enjoyed an active seminar programme. Seventeen (17) seminars spanning a wide range of topics were delivered by visitors, faculty and postgraduates. The seminars that were delivered by visitors to the Department are listed below.

- **Dr. Mervin Chisholm** – "Successful Teaching: Embracing your Role as a Lab Demonstrator/Supervisor", October 2, 2014

Department of Chemistry

- **Ms. Roselyn Fisher** – “Chemistry, Helping to Increase Food Supply”, October 9, 2104
- **Mrs. Karlene Robinson** – “ACS Citation Style and Endnote”, October 23, 2014
- **Ms. Sabraham Green** – “The Relationship Between University Students’ Performance in Mathematics and Introductory Chemistry A (CHEM1901)”, November 23, 2104
- **Dr. Leslie Simpson** – “Studies with Castor beans as a source of Biofuels at the CARDI Jamaica Unit”, October 20, 2014.
- **Mr. Ian Myrie** – “The Heritage International Scholarship Trust Plan”, February 5, 2015
- **Professor Suresh Narine** – “Transitioning to Green materials: Why and How”, February 25, 2015.
- **Mr. Donovan Brown and Mr. Dewey Williams** – “The Purchasing Process Specific to Academics and Postgraduates”, March 5, 2015

STUDENT ENROLMENT

Numbers of students reading courses in chemistry, 2011–2015

Level	2011–2012 Sem 1/Sem 2	2012–2013 Sem 1/Sem 2	2013–2014 Sem 1/Sem 2	2014–2015 Sem 1/Sem 2
Preliminary	240/219	239/218	226/209	200/175
Introductory	537/458	546/506	544/488	553/501
Advanced	266/258	256/227	255/218	239/198
Postgraduates	45	42	65*	128

* includes students registered in the MSc FAPT, but not OESH

Research Degrees Awarded

Research degrees in Chemistry awarded in 2014/2105 AY

Degree completed	Name	Supervisor (s)
PhD Chemistry	Mark Allen	Prof I. Kahwa
	Nykieta James	Dr. Paul Maragh and Prof Tara Dasgupta
	Norda Stephenson (With High Commendation)	Dr. Novelette Sadler – McKnight
	Rosemaire Wilson	Dr. Anthony Greenaway
MPhil Chemistry	Francine Campbell	Dr. Anthony Greenaway
	Henry Small	Dr. Willard Pinnock
	Toni Johnson	Professor Paul Reese
	Imron Miller	Dr. Novelette Sadler – McKnight

BOOK LOAN SCHEME

The Department continues to operate its book loan scheme for undergraduate students. The demand for textbooks at the introductory level is still the highest, followed by those for the preliminary courses.

WORKSHOPS AND CONFERENCES ATTENDED

Dr. Andrea Goldson-Barnaby attended and made a presentation at the Pittcon 2015 conference, held in March, at the Morial Convention Center in New Orleans. The presentation was entitled “Jamaican sorrel (*Hibiscus sabdariffa*) and citrus (*Citrus sinensis*) waste extracts: Potential applications and utilization”. She also attended the Commonwealth Science Conference, Bangalore, India, 25th–28th November, 2014. A poster presentation was made entitled “Characterization of ackee (*Blighia sapida*) lipid extracts”. Dr. Goldson-Barnaby and Dr. Donna Minott Kates, attended the 17th World Congress on Food Sciences & Technology, IuFOST. A presentation entitled “Lipid content and fatty acid analyses of the Jamaican ackee (*Blighia sapida*) fruit” was made.”

Drs. Petrea Facey, Ainka Brown and Ms. Norda Stephenson attended

the Centre for Excellence in Teaching and Learning (CELT) Teaching Skills Workshop held 14th – 16th January, 2015 at the UWI, Mona Campus.

Dr. Winklet Gallimore attended the BIT's Third Annual International Congress of Algae - 2014 held 16th – 18th October in Dalian, China. An oral presentation was made entitled "A Tale of Two Algae: Potential Applications of Two Jamaican Algal Species". She also attended the Scientific Research Council's 3rd Biennial Conference, held November 2014. An oral presentation was made entitled "Surfing the Seas for Marine – Derived Therapeutic Agents".

PhD Chemistry candidates, **April Johnson** and **Stacey-Ann Parker**, were selected to be among 70 PhD students from across the Commonwealth who were sponsored by the Royal Society to participate in the Commonwealth Science Conference in Bangalore, India, 25–28 November 2014. Both students presented posters describing aspects of their PhD projects.

OUTREACH

Dr. Andrea Goldson-Barnaby, **Dr. Gail Baccus-Taylor** and **Mr. Charles Grizzelle** participated in the College of Agriculture, Science and Education (CASE) during their Open Day celebration held, 26th February, 2015. The experience was a rewarding one. **Dr. Andrea Goldson-Barnaby** participated in the Stem Talent Expansion through Promotion of Science (S.T.E.P.S) Workshop held 20th November, 2014

The Chemical Society (ChemSoc) team represented the Department of Chemistry very well at the display of clubs and societies at the event known as Club Fusion held, 26th February, 2015. The ChemSoc booth saw many interested persons viewing the experiments. On the 9th and 11th February, 2015, staff, graduate students and members of UWI ChemSoc participated in the staging of interactive demos and displays on the spine which was a part of this year's UWI Research Days initiative. The activities were geared at highlighting various areas of Chemistry done at UWI and also to explain selected everyday phenomena involving

Chemistry. These were well received primarily by the high school students who were in attendance. The perennial favourite, the Ice-cream making demo, was particularly enjoyed by the students. The Chemistry department was also represented in the Science and Technology section of the Tent with graduate students interacting with members of the public and informing them about the course offerings and research done in the department. Additionally, in association with the Mustard Seed Communities, ChemSoc collected and donated hygiene items for the Hayden Singh's Children Sanctuary.

The Department participated in the Western Jamaica Campus outreach activity held on 12th–13th January, 2015. The students were involved in a practical experiment which demonstrated the colour changes associated with pH, correlating it to environmental issues. Other experiments were also conducted and students played a game using the periodic table. The experiment were organized by **Dr. Ainka Brown** and executed at the Western Campus by Graduate students Sanjay Campbell and Coniel Roye, as well as Dr. Winklet Gallimore, who engaged the high school students.

Dr. Marvadeen Singh-Wilmot attended the World Academy of Sciences (TWAS) meeting in Oman November 2014 and spoke of the need for investment in research infrastructure for young scientist in developing countries like the Caribbean states. Her ideas were captured in an interview which was published January 2015 on Scidev.net. It was entitled “Q and A with a Caribbean Ambassador for Science”. Dr. Singh-Wilmot was also involved as a Consultant and Trainer in two Stem Teacher training workshops mounted for teachers in Fundaciones Centres. The sessions were held in July 2015 in Montego Bay and Kingston.

Over 26 students and members of staff (including six undergraduates) were directly involved as members of the on-site and fund raising teams for the Jamaica Cancer Society – Relay for Life, held 13th–14th June, 2015. The amount collected by the Department and their associates was \$98,632.00. **Mr. Sanjay Campbell** was the Department team member who collected the most funds. Activities from the Chemistry Department

were coordinated by **Dr. Ainka Brown** and included a coin experiment (copper to gold), a milk 'art' experiment, elephant toothpaste and a word-making game using the elements of the periodic table. Small prizes were given to deserving patrons. The absolute glee and delight of some of the persons observing the experiments made the effort worthwhile.

Nineteen (19) members of staff participated in the Sagicor SIGMA Corporate Run on 22nd February, 2015. The participants found the event very fulfilling.

AWARDS AND PRIZES

On 11th December, 2014, The University of the West Indies awarded members of staff for long service. Among the recipients were **Mrs. Linda Cross-Gordon** (30 years), **Mr. Winston Chambers** (15 years) and **Dr. Raymond Reid** (15 years).

Dr. Nadale Downer Riley was awarded the 2014 Scientific Research Council's young scientist award.

Dr. Andrea Goldson-Barnaby received the CARPIMS Mobility Scholarship for Academic Staff Mobility which allowed her to attend the National University of Samoa as Guest Lecturer – Climate Change and Food Security. This scholarship covered all expenses for the month of May, as well as an allowance of 1,000EUR. She also received the PITTCO travel award amounting to approximately \$215,000.00 from the Royal Society for travel to the Commonwealth Science Conference held 8–12 March, 2015. Finally, Dr. Goldson-Barnaby also received the 2014 Developing Country Sponsorship Award from IuFoST, to attend the World Congress of Food Science & Technology, Montreal, Canada.

For Research Day, the following awards were received:

- Principal's Awards for the Best Research Publication:

Dr. Nadale Downer Riley and collaborators

Article: "Intramolecular Cycloaddition Reactions of Furo*3, 4 – b]indoles for Alkaloid Synthesis"

- Principal's Awards for the Most Outstanding Researcher/Research Activity:

Dr. Paul Maragh

Articles: "Mechanisms in Solution", "Alternative Synthetic Methods for some PEPPSI – type Palladium Complexes", "Imidazolinium Salts derived from Amino [2.2] paracyclophane compounds: Synthesis and hydrolytic ring – opening", and "In vitro studies on the reaction rates of acrylamide with the key body – fluid thiols: L-cysteine, glutathione and captopril"

At the Faculty Award Ceremony held March 2015, **Mr. David Anderson** received the Dean's Staff Award for outstanding support to the Faculty of Science and Technology.

VISITORS TO THE DEPARTMENT

- On the 30th January, Dr. John Zarling, Program Manager from Los Alamos National Laboratory, visited the Department. Dr. Zarling assisted the Department with the removal of a radioactive source which was no longer used.
- Professor Suresh Narine, the Director of the Trent Centre for Biomaterials Research, the Ontario Research Chair in Green Chemistry and Engineering, and the Natural Sciences and Engineering Research Council (NSERC) of Canada, Senior Industrial Research Chair in Biomaterials visited the Department and delivered a special lecture on Monday, 23rd February, 2015.
- Ms. Sharna Casimir, post – graduate student from the Department of Chemistry at UWI, Cave Hill visited the department in February 2015. She worked under the supervision of Dr. Paul Maragh collecting survey data from the Preliminary and Introductory Chemistry laboratory students for use in her research project.
- In April 2015, Dr. Bryne Ngwenya from the University of Edinburgh, brought a class to Jamaica to conduct water sampling and analysis in Discovery Bay and along the Rio Cobre. Drs. Gordon-Smith and Rattray assisted the group.

- Professor Thomas Olsson and Professor Johan Bohman, from the Department of Chemistry and Molecular Biology at the University of Gothenburg, visited the Department as a part of our on-going Linnaeus-Palme Faculty Exchange collaboration. During Prof Olsson's stay (22nd April–15th May), he delivered a lecture series on “Medicinal Chemistry: The process from an idea to a launched drug” to faculty and graduate students.

PAPERS PRESENTED

- Helen Asemota, **Mohammad Bakir**, Toni Johnson, Mark Lawrence, Peter Nelson, Kenroy Kimar Wallace, “Physico-chemical and biological properties of polypyridyl hydrazonic ligands”. 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9–11, 2015 (Poster Presentation)
- **Bowen-Forbes**, C. S., McCook-Russell, K. P., Mulabagal, V., Liu, Y., Nair, M. G., Yuan., T., Seeram, N. P. “Health-promoting properties of exotic Jamaican fruits”. American Chemical Society, 43rd Central Regional Meeting, Dearborn MI. June 5–9, 2015
- **Camille Bowen-Forbes**. “Antioxidant, Anti-diabetic and other health-promoting properties of Jamaican *Rubus* berry species”. 4th International Conference and Exhibition on Food Processing & Technology. August 10–12, 2015, London, UK.
- Theresa Campbell, **Camille Bowen-Forbes**, Ian Thompson, Nyron Nembhard, Ruby Lindo, Joette McKenzie, Joette McKenzie, Rupika Delgoda. “A Comparative Analysis of the Sensory and Phytochemical Properties of two varieties of the Red Raspberry *Rubus Rosifolius* and the Antidiabetic Activity of its Extracts” 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9–11, 2015 (Oral Presentation)
- Theresa Campbell, **Camille Bowen-Forbes**, Williams Aalbersberg. “Phytochemistry and Biological Activity of Secondary Metabolites from *Rubus Rosifolius*”. World Nutraceutical Conference and Expo, July 15–17, 2015 (Poster Presentation)

- Alexa O Redway, Roxanne C Higgins, **Nadale Dower-Riley**, Yvette Jackson. “Alternative Route To The Synthesis Of Azacoumarins”. 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9–11, 2015 (Poster Presentation)
- Sanjay Campbell, **Winklet Gallimore**. “Marine Algal Natural Products with Anti-cancer Properties”. 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9–11, 2015 (Poster Presentation)
- April Johnson, **Helen Jacobs**. “Antimicrobial 4-Hydroxy-2-Octadec-(11*Z*)-Enoylcyclohexane-1, 3-Dione And Other Secondary Metabolites From Various Jamaican Peperomia Sp.” 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9–11, 2015 (Poster Presentation)
- Antoinette Gayle, **Donna A. Minott Kates**. “Jamaican coffee (*Coffea arabica* var. *typica*) grown at different altitudes: a comparison of caffeine and cup quality”. Cocotea 2015. Aveiro, Portugal, June 21–24, 2015.
- O’Neil C. Falloon, Gail S.H. Baccus-Taylor, Saheeda Mujaffar, and **Donna Minott Kates**. “A Preliminary Investigation into the Quantification and Isolation of Starch from Seeds of Ackee (*Blighia sapida*) Fruit”. Institute of Food Technologists, Chicago, USA, July 11–14, 2015.
- Littlelet Scarlet, **Paul Maragh**, Tara Dasgupta, Kamaluddin Abdur-Rashid. “Chiral Aminophosphine Complexes: Synthesis, Characterization and Application to Asymmetric Catalysis”. Presented at the 248th National Meeting of the American Chemical Society, San Francisco, CA, U.S.A., August 10–14, 2014.
- Shannen Lorraine, **Paul Maragh**, Tara Dasgupta, Kamaluddin Abdur-Rashid. Chiral Transition “Metal Diphosphine Complexes and Their Applications In Asymmetric Catalysis”. 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9–11, 2015
- Shannen Lorraine, **Paul Maragh**, Tara Dasgupta, Kamaluddin Abdur-

- Rashid. "Novel Chiral Transition Metal Diphosphine Complexes and Their Applications in Asymmetric Catalysis". 10th Conference of the Faculty of Science and Technology, UWI, Mona, June 9–11, 2015.
- Shannen Lorraine, **Paul Maragh**, Tara Dasgupta, Kamaluddin Abdur-Rashid. "Novel Chiral Transition Metal Diphosphine Complexes and Their Applications in Asymmetric Catalysis". 248th National Meeting of the American Chemical Society, San Francisco, CA, U.S.A., August 10–14, 2014.
 - Tamika Drummond, **Paul Maragh**, Tara Dasgupta. "Mechanistic Investigation of Hydrolytic Decompositions of Roussin's black and Roussin's red salts in Aqueous Acidic and Basic Solutions". 249th National Meeting of the American Chemical Society, Denver, CO, U.S.A., March 22–26, 2015
 - Tamika Drummond, **Paul Maragh**, Tara Dasgupta. "Mechanistic Investigation of Hydrolytic Decompositions of Roussin's black salt in Aqueous Acidic and Basic Solutions". 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9–11, 2015 (Poster Presentation)
 - Samantha R. Brown-Dewar, Tara P. Dasgupta, **Paul T. Maragh**. "Residual Levels of Furan in Some Caribbean Foods and Its Kinetic Interactions with Low Molecular Weight Biological Reductants". 51st Annual Meeting of the Caribbean Food Crop Society, Paramaribo, Suriname, July 19–24, 2015 (Poster presentation)
 - Samantha Brown-Dewar, **Paul Maragh**, Tara Dasgupta. "Residual Levels of Furan in Some Caribbean Foods and Its Kinetic Interactions with Low Molecular Weight Biological Reductants". 248th National Meeting of the American Chemical Society, San Francisco, CA, U.S.A., August 10–14, 2014.
 - **Dipali Girish Nair**, Camille Bowen-Forbes. "Phytochemistry and health beneficial properties of Jamaican black raspberries, *Rubus racemosus*". 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9–11, 2015 (Poster Presentation)

- Fabian Banton, **Roy Porter**, Petrea Facey. “Secondary Metabolites from the aerial parts of *Bursera aromatic*”. 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9-11, 2015 (Poster Presentation)
- Leslie Ann Hoo Fung, **Robin Rattray**, Gerald Lalor. “Assessment of cadmium, mercury and lead concentrations in Jamaican conch, lobster, and tilapia”. 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9–11, 2015 (Poster Presentation)
- Nijole Young, Michael Coley, **Vaughn Rattray**, Anthony Greenaway. “Powder X-ray Diffraction studies of the phosphorus minerals in Jamaican bauxites”. 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9–11, 2015 (Poster Presentation)
- Paula Henry, Michael Coley, **Vaughn Rattray**, Willard Pinnock. “The Influence of Ventilation Modes on In-vehicular Exposure to Carbon Dioxide”. 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9–11, 2015 (Poster Presentation)
- **Ruth Williams**, Camille Bowen-Forbes, Andrea Goldson-Barnaby, Dipali Nair. “Nutraceutical and phytochemical profile of aerial parts of Jamaican blackberry (*Rubus jamaicensis*). 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9–11, 2015 (Poster Presentation)
- **Marvadeen Singh-Wilmot**. “From Discrete Ln(III) Polynuclear Clusters to Metal Organic Framework Materials: Insights into Science For Development Of Caribbean States Like Jamaica”. George Washington University, July 2014 (Oral Presentation)
- **Marvadeen Singh-Wilmot**. “Insights into Science For Development Of Caribbean States Like Jamaica”. Merl Grove and Manchester High Schools, February, May and June 2015. (Oral Presentations)
- Jermaine Smith, **Marvadeen Singh-Wilmot**. “Rare Earth Metal Organic Framework materials from 2-Nitroterephthalate. 10th Conference of the Faculty of Science and Technology, UWI, Mona; June 9–11, 2015 (Poster Presentation)

- **Ian Thompson.** “Developing a Global Functional Beverage Product from Coconut Water Poster Session: Product Development & Ingredient Innovations”. Institute of Food Technologists - Annual Meeting & Food Exposition, McCormick Convention Centre, Chicago, Illinois, July 13, 2015 (Poster Presentation)

PUBLICATIONS

- **Jacobs, H.; Sadler-McKnight, N;** McLean, S.; Piggot-Cumberbatch, P.; Corbin, G.; Taylor, M. *Chemistry for CAPE® Examinations;* Macmillan, 2014.

Refereed Journal Articles

- **Mohammed Bakir,** Mark A.W. Lawrence, Shameal McBean, “Spectroscopic and electrochemical properties of group 12 acetates of di-2-pyridylketone thiophene-2 carboxylic acid hydrazone (dpktch-H) complexes. The structure of $[Cd(3-N,N,O-dpktch-H)_2]$ ” *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 2015 146, 323–330.
- **Mohammed Bakir,** Rebecca Conry, and Donovan Thomas, “Synthesis, solution properties, and solid-state structural analysis of $[Mn(4-N,N,S,N dpktsc)Br]_2 \cdot nCH_3CN$ ($n = 1$ or 0 and $dpktsc =$ di-2-pyridyl ketone thiosemicarbazone)” *Journal of Coordination Chemistry*, 2014, (67), 2 249–264
- Mark Lawrence, Yvette Jackson, **Willem Mulder,** Per Martin Bjo”remark, and Mikael Håkansson. “Synthesis and Structure of a Novel Substituted Benzothiazolyl-N-phenyl-2-pyridinecarbothioamide; Kinetics of Formation and Electrochemistry of Two of its Palladium Pincer Complexes”. *Australian Journal of Chemistry* 2014, 68(5) 731–741
- Grace-Anne Bent, **Paul T. Maragh,** Tara Dasgupta, Richard A. Fairman, Lebert Grierson. “Kinetic and Density Functional Theory (DFT) Studies of in vitro Reactions of Acrylamide with the Thiols:

Captopril, L-Cysteine, and Glutathione.” *Toxicology Research*, 2015, 4, 121–131.

- **Mulder Willem**, Forrest Crawford. “On the distribution of interspecies correlation for Markov models of character evolution on Yule trees”. *Journal of Theoretical Biology*. 2015, 364, 275–283.

INCOME GENERATION & RESEARCH GRANTS

Consultation fees, summer school and rental of facilities: J\$14.9M

Better Process Control School (payment received for invoice from previous year): J\$67,466.40

Dr. Paul Maragh and the Pesticide Research Laboratory’s Management Committee continued the pursuit of accreditation for the Pesticide Research Laboratory. The process was almost complete at the end of the academic year.

PUBLIC SERVICE

Dr. W. Gallimore

- Training Session for External Examiners of the Joint Board of Teacher Education (JBTE)
- External Examiner, Joint Board of Teacher Education (JBTE).
- Facilitator, The Rock Campus Connexion (A Christian ministry to tertiary level students)

Dr. P. Maragh

- Assistant Chief Examiner for CXC (CSEC) Chemistry.
- External Examiner for Chemistry – University of Technology
- External Examiner for Chemistry – Joint Board for Teacher Education
- External Examiner for Chemistry (Science & Technology) – MICO University

Department of Chemistry

- External Examiner for Chemistry – College of Agriculture, Science & Education
- Executive Member, National Council for Indian Culture in Jamaica.
- Treasurer, Campion College Home School Association.

Dr. D. Minott-Kates

- Member, National Food Standards Committee, Bureau of Standards Jamaica
- Chairman of the Board, Grove Primary School, Gordon Town Road, St Andrew
- Secretary, St. Andrew High School for Girls Parent Teachers Association
- Mona Preparatory School Parent Teacher's Association – Public Relations

Dr. R. Porter

- Board Member, Careers and Placement Services, UWI Mona.
- External Examiner for The MICO.
- External Examiner for CASE
- The National Mirror Committee (NMC) for ISO TC 93 Starch (Including Derivatives and By-Products), The Bureau of Standards Jamaica (BSJ)

STUDENTS

At the Faculty Award Ceremony held March 2015, eight undergraduate awards were made to students in Chemistry for their academic performance. They are Neenem Dilworth (Garfield Sadler), Mark Rambaran (Willard Pinnock), Alicea Scott (Bertram Frazer – Reid Prize), Toni – Ann Brown (Pavelich/Honkan), Tiffani Blackman (Cedric Hassall), Natasha Dyer (Wilfred Chan), Lauren Gordon (Leonard J. Haynes) and Desiree Brown (Chemistry Department).