DEPARTMENT OF CHEMISTRY

Professor Ishenkumba A. Kahwa, BSc (Hons), MSc *Dar es Salaam,* **DPhil** *Louisiana State* **– Head of Department**

Overview of Department's Work 2005-2006

The Department started out the 2005-2006 academic year with a strong determination to address the issues of the UWI Mona's strategic challenges and to ensure that there was continuity in the areas which were not completed the previous year.

Areas receiving serious attention included the: (1) completion of the joint curriculum reform with the St. Augustine and Cave Hill campuses; (2) introduction of research experience for all students doing BSc Chemistry majors; (3) modernization and streamlining of the laboratory programmes into more manageable and appealing teaching-learning activities for the students; (4) preparation for the commencement of the Occupational and Environmental Safety and Health (OESH) programme; (5) increase in scholastic output above the thirty publications per year level attained in 2004/5, and (6) improvement of the curriculum delivery process in keeping with the Departmental Review of 2004-2005.

There was student registration growth of about 8% and 15% at the undergraduate and graduate levels respectively over 2004/5. The number of students served by our outreach programme to high schools and community colleges increased by 120% over last year. The Department also completed its experiment on the impact of research project learning/teaching methods; six students did the Research Project course where problem solving, communication (written and oral) and practical skills were developed and tested with good response from students. The Department will expand the Research Project offerings in 2006-2007 as a requirement for all chemistry programme majors.

The Department published 22 and 1 refereed and non-refereed articles respectively. This is short of the target of 30 refereed publications but

within the usual band; the Department will be working on improvements for 2006/7.

The Commercial Chemistry project which started out moderately in 2004/5 improved its earnings during the year; it has the potential to attract large earnings and will be a main area of concentration for the upcoming year. In the area of extra budgetary income, the target of US$1M was attained and we have realised our objective of cultivating qualitative improvements in the ability of staff to compete for funding.

Again the Department was placed in the spotlight when **Nadale Downer-Riley** a Ph.D. student was chosen by the CARISCIENCE to represent the region at the 56th meeting of Nobel Laureates, held in Lindau, Germany, from June 25 – 30, 2006. It was the 18th Assembly in Chemistry and featured 18 laureates in Chemistry, 3 in Physics and 2 in Physiology/Medicine among the over 500 scientists from 48 countries. Nadale found the science stimulating and believed it was a great opportunity for interaction with some of the most brilliant minds in Chemistry. The meeting, she said, left nothing more to be desired of a scientific forum and she thanked CARISCIENCE and UNESCO for their support and for the tremendous opportunity offered to her.

The year's activities culminated with the hosting of the ***Department of Chemistry STT Symposium: The Strategic Evolution of the Chemistry Department, UWI Mona (1948-2006)***. The conference was held July 17-19, 2006 and was funded by the Strategic Transformation Team - (STT). The goal was to bring together past department heads and students and university leaders to introspect on the progress the department has made, the challenges it is facing and opportunities for further progress. A report will be published in 2006/7 and it will also address the best practices which can be replicated in other university units.

Overall, there have been a total of fifteen in-house seminars conducted by both overseas and local professionals, in addition to two transfer seminars and four PhD orals.

HIGHLIGHTS OF MAJOR ACTIVITIES IN THE DEPARTMENT

1. New Occupational & Environmental, Safety and Health (OESH) Programme

The preparation for the introduction of the new degree programmes in Occupational and Environmental Safety and Health (OESH) met with tremendous success. All the preparations to start the course in 2006-2007 were put in place and funding for building classrooms and laboratories for teaching as well as for consultancy and training services were being vigorously pursued. Admission offers of 45, 2, and 3 were made for the MSc (OESH), M.Phil. and PhD programmes respectively.

2. Chemistry Curriculum Reform

While progress towards consensus was slower than expected, the underlying political process proceeded smoothly and the critical issues received open and detailed attention and discussion. Eventually in June 2006 a decision on the framework for the new curriculum was agreed on with support from the Faculty of Pure and Applied Sciences.

The key features of a new and modernized curriculum are:

1. a streamlined and enhanced laboratory programme at the undergraduate level that will alleviate the negative and stressful impact of 'too many laboratory sessions' in a week
2. a research project requirement for all Chemistry majors designed to enhance critical thinking skills and competencies as stipulated in the vision of the UWI graduate
3. to facilitate faster recovery from failure of Chemistry courses by would-be Chemistry majors. Much of this was done in collaboration with the St. Augustine and Cave Hill campuses to enhance the regional integration process.
4. at the graduate level, the new curriculum introduces cumulative examinations to make for well rounded doctoral graduates and introduces flexibility in taught course requirements to reflect diverse interest among research students and staff.

3. The Commercial Chemistry Project

The Commercial Chemistry Initiative has shown the potential to earn much needed income but the persistent shortage of synthetic organic chemists continues to be a problem. Nevertheless, one project has been secured and provisions were made for the recruitment of an Assistant Research Fellow and a Scientific Officer to the project with support from the Strategic Transformation Team.

4. Extra-Budgetary Income

Income generation: Although the Department did not secure new large external research grants as was the case in the previous year, the Department was able to realise its target of **US$1M in extra-budgetary income** (US$1.14 Million). This was achieved by aggressively tracking and sourcing of external consultancies, appeals to grantors to increase their contributions, offering summer school, rental of laboratories and other facilities and strategic alignment of the department's plans with the strategic transformation vision of the UWI Mona.

5. The Mona Symposium 2006

The Twenty First biennial Mona Symposium on Natural Products and Medicinal Chemistry was held from January 3-6, 2006. The symposium, which started in 1966, is the longest running international scientific meeting in the Caribbean.

It was attended by over seventy overseas participants and included a number of distinguished chemists from academia and industries in the Caribbean, the United States, United Kingdom and Japan. Among the participants was a group of seventeen undergraduate students from St. Olaf College in the USA who participated in the symposium and experienced a rich scientific and cultural exchange.

The conference provided opportunities for much productive collaboration between West Indian Chemists and participants from overseas. Graduate students from all three UWI campuses presented posters, which described their work and the outstanding ones attracted prizes.

6. CAPE Workshop

The hosting of the Caribbean Advanced Proficiency Exam (CAPE) Workshop has become an annual event for the Department, which increased in subscription by 120% this year. It was held February 27 – March 3, 2006 with five hundred and thirty-five (535) students from rural and corporate area high schools who were preparing for the CAPE Chemistry examination. The Workshop covered the Fundamentals of Spectroscopy for Unit I Chemistry and was co-ordinated by Dr. Novelette Sadler-McKnight.

7. The BEd. Secondary Distance Project

The Bachelor of Education Distance Teaching Project continued; new chemistry courses inorganic, organic and physical chemistry were developed and approved for the BEd. package.

8. The Acquisition of UV-Visible Spectrometers

The Department was able, with campus support to acquire five fibre optic UV-Visible Spectrometers at a cost of US$16,795.00. The acquisition of these instruments became a necessity as the student enrolment in the introductory and advanced laboratories increased by 29% over the 2002/3 academic year and the Department was faced with a severe shortage of spectrometers essential for running the labs.

9. Installation of Fume Hoods

New fume hoods were installed in the preliminary and physical chemistry teaching laboratories and the organic, inorganic and overflow organic chemistry research laboratories. The work was carried out by Goncura Company Ltd. at a cost of J$14 Million and was funded by the UWI Mona Strategic Transformation Team.

10. The Re-naming of the Applied Teaching Laboratory

Based on a recommendation from the Department, the University approved the re-naming of the Applied Chemistry Teaching and Research Laboratory *'The Kenneth E. Magnus Applied Chemistry Teaching and Research Laboratory'* in honour of Professor Ken Magnus a former Head of Department and Dean of Faculty who developed and started the Applied Chemistry Programme in 1968.

11. Chemists-at-Heart

On June 13, 2006 the Department accommodated a group of Kindergarteners from the Rainbow Land Nursery School and Kindergarten who got a taste of hands-on experiments including how to make ice cream using liquid nitrogen and laser demonstrations. Also 40 students from the Denham Town Primary School's Science Club and 20 high school students visited the Department and participated in similar exercises.

12. Study Abroad Programme

Seventeen students from St. Olaf College in the United States arrived in the Department on January 5, 2006 to pursue an undergraduate course in *Medicinal Chemistry: An International Perspective.* A component of the course

was their attendance at the Mona Symposium on Medicinal and Natural Products. This conference provided an opportunity for them to meet and interact with professional medicinal chemists and graduate students from different countries and to share in a cross-cultural learning experience. The group returned to the US on January 28, 2006 after completing the course and writing their examinations.

13. The Department of Chemistry: STT Symposium

The Department concluded its year-long activities with what could be considered one of its most successful events by the hosting of the ***Department of Chemistry STT Symposium: The Strategic Evolution of the Chemistry Department, UWI Mona (1948-2006)***. The symposium was held July 17-19, 2006 and was funded by the Strategic Transformation Team - STT.

The goal of the symposium was to formally document the evolutionary process of the Department's scholastic excellence and to identify lessons that helped to deepen the success of the Department and from which other UWI Departments and Units could benefit. The objective of the conference was to analyse the evolutionary process and to identify leadership and management policies/visions, resource deployment strategies, custom and practices which have contributed to the sustained success of the Department since 1948.

With its clear goal and objectives special invitations were extended to the former heads of department and lecturers so that they could provide insights into the department's scholastic evolution and strategic measures which nurtured and sustained it. Six of the eight former heads, Professors Cedric Hassall (Founding Head), Gerald Lalor, Wilfred Chan, Ken Magnus, Dr. Earle Roberts and Tara Dasgupta and the current head attended the symposium as well as current lecturers. Two former lecturers, Prof. Vernon Box and Dr. Basil Burke, who themselves benefited (as students and young staff) from the nurturing environment which the Department provided, also participated.

14. Student Assessment

Student ratings for teaching performance continue to be high (out of 5, score ranges are: 3.0–4.6, 3.0-4.4 and 3.3–4.3±1 for lecturers, courses and laboratories respectively). The curriculum reform effort will take into account student assessments, especially laboratories where higher scores would normally be expected.

15. Customer Service Perception survey was carried out at the Chemistry Office in January 2006 and the Department received a score of 70.5%.

Research Day Awardees

Dr. Roy Porter and **Ms. Petrea Facey** received award for ***Best Publication***

Dr. Anthony Greenaway received an award for the ***Research Project Attracting the Most Research Funds*** – US$365,173.00.

Professor Helen Jacobs received the Vice Chancellor's Award for Excellence Performance in Research.

PAPERS PRESENTED

- **Mohammed Bakir,** 'The development of the chemistry of di-2-pyridyl-ketone derivatives for molecular sensing & catalytic applications', Texas A & M University, Commerce, TX, Feb. 2, 2006.
- **Mohammed Bakir** and Orville Green, 'Molecular sensing behavior of [$ZnCl_2(\eta^3$-dpkbh)] where dpkbh = N,N,O-di-2-pyridyl ketone benzoyl hydrazone', 75th Gordon Research Conference, Salve Regina University, Newport Rhode Island, July 17-21, 2006.
- **Shakia Sewell**, Michael Coley and Anthony Greenaway. The impact of Goethite content and crystal morphology in Bauxites on Red Mud settling in the Low Temperature Bayer process. Geological Society of Jamaica Conference, Dec. 2005.
- Debbie-Ann Gordon-Smith, Francine Taylor-Campbell, Kayan Campbell and **Anthony Greenaway.** Nutrient Fluxes to Sections of Jamaica's Coastal Zone. Geological Society of Jamaica Conference, Dec. 2005.
- **J. A. Grant,** Y. A. Jackson and M. Gossell-Williams, "The Synthesis And Pharmacological Activity of Some Novel 1,3-Diazepinium Chlorides", Faculty of Medical Sciences Conference, Kingston, Jamaica, Nov. 2005.

- **Ishenkumba Kahwa** 'The need for Inquiry Based Science Education methods in the Caribbean' September 24-28, 2005, 2nd IANAS Science Education Focal Points meeting in Edmonton, Canada.
- **Ishenkumba Kahwa**, 'Small nanoclusters: mechanical and cooperative electronic behaviour therein', 3rd IUPAC International Symposium on Macro and Supramolecular Architectures and Materials (MAM-06): Practical Nanochemistry and Novel Approaches from May 28 - June 1, 2006, Tokyo, Japan.
- **Ishenkumba Kahwa,** 'Opportunities for education and training in OESH at UWI', 3rd Caribbean Environmental Forum, June 5-9, 2006, Antigua.
- **Ishenkumba Kahwa,** 'The status of science and technology in the Caribbean', CARICOM Conference on: Harnessing Science and Technology for Caribbean Development, Trinidad and Tobago, May 10-13, 2006.
- **Lancashire, Robert,** 'Developing interactive web pages with MDL Chime and JAVA', 40th IUPAC CONGRESS 14-19 August 2005 Beijing, China
- Richard Cammack, Yang Fann, **Robert J. Lancashire,** John P. Maher, Peter S. McIntyre, and Reef Morse, 'Proposed International Standard for Exchange of EMR/EPR/ESR spectroscopic data' 40th IUPAC CONGRESS, August 14-19, 2005 Beijing, China.
- **Robert Lancashire,** "JSpecView - A Java-Based Spectroscopy Viewer" University of Cologne, Germany, July 2006
- **Robert Lancashire** "JSpecView - A Java-Based Spectroscopy Viewer" presented at 19th BCCE (Biennial Conference on Chemical Education), Purdue University, July 30 – August 3, 2006.
- **Camille S. Bowen,** Donna A. Minott-Kates. "RP-HPLC analysis of hypoglycins A and B in ackees (Blighia sapida): Determination of the mechanism of natural detoxification of the fruit". Institute of Food Technologists. Orlando, USA, June 2006.
- Grace Ann Junor, Roy B. R. Porter, Lawrence A. D. Williams and **Trevor H. Yee**, 'An Investigation into the Essential Oil Composition of the Three Endemic Species of Bursera spp.

(Burseraceae) in Jamaica., 4th International Society for the Development of Natural Products Conference, Leysin, Switzerland, May 2006.

- **M. Shields,** T. Yee, P. Reese, and R. Delgoda **'**Investigating the potential for drug-herb interactions in Jamaica: effects of medicinal plants on the activity of Cytochrome P450 enzymes., 13th Meeting of the International Society for the Study of Xenobiotics (NA)/20th Meeting of the Japanese International Society for the Study of Xenobiotics, Maui, Hawaii, U.S.A., October 23 - 27, 2005. Abstract: Drug Metabolism Reviews, 2005, 37 (Suppl. 2).
- **W.M. Forbes**, R.D. Robinson and P.B. Reese 'Eryngial, a plant compound with marked anthelmintic activity *in vitro* using *Strongyloides stercoralis* L3'. American Society of Tropical Medicine and Hygiene, Washington, U.S.A., December 11 - 15, 2005. Abstract: The American Journal of Tropical Medicine and Hygiene, 2005, 73(6): 254.
- **Marvadeen Singh-Wilmot**, 'X-ray Crystallography at the University of the West Indies, Mona: Structures of Novel Metal Complexes and the H-Bonding Interactions Featured in Them'. American Crystallographic Associations Annual Meeting in Honolulu, Hawaii, July 2006.

PUBLICATIONS

Refereed Journal Articles

Bakir M, Gyles C

* Monosaccharide optical sensor based on ruthenium(II)-bis(bipyridine) of 4-nitrophenyl-di-2-pyridyl ketone hydrazone (dpknph), [Ru(biPY)(2)(dpknph)]Cl-2, *Journal of Molecular Structure* 753 (1-3): 35-39, 2005

* Bakir M, Conry RR, Green O. Polymorphic di-2-pyridyl ketone 4-nitrophenylhydrazone (dpknph): the structure of beta-dpknph, *Acta Crystallographica Section C-Crystal Structure Communications* 61: O607-O609, 2005

* Clarke ZE, Maragh PT, Dasgupta TP, Gusev DG, Lough AJ, Abdur-Rashid K. A family of active iridium catalysts for transfer hydrogenation of ketones, *Organometallics* 25 (17): 4113-4117, 2006

* Abdur-Rashid K, Dasgupta TP, Burgess J. Solubilities and transfer chemical potentials for cobalt(III) complexes in t-butanol-, i-propanol-, and ethanol-water mixtures, *Transition Metal Chemistry* 30 (8): 948-956, 2005

* Burgess J, Hubbard CD, Miyares PH, Cole TL, Dasgupta TP, Leebert S. Kinetics of dissociation of tris-{3-(2-pyridyl)-5,6-bis(2-furyl)-1,2,4-triazine}iron(II) *Transition Metal Chemis- try* 30 (8): 957-963, 2005

* Dasgupta TP, Aquart DV. Transfer of nitric oxide from nitrovasodilators to free thiols - Evidence of two distinct stages, *Biochemical and Biophysical Research Communications* 335 (3): 730-733, 2005

* Taylor RA, Ellis HA, Maragh PT, White NAS. The room temperature structures of anhydrous zinc(II) hexanoate and pentadecanoate, *Journal of Molecular Structure* 787 (1-3): 113-120, 2006

* Gallimore WA, Kelly M, Scheuer PJ. Alkaloids from the sponge Monanchora unguifera, *Journal of Natural Products* 68 (9): 1420-1423, 2005

* Greenaway AM, Gordon-Smith DA. The effects of rainfall on the distribution of inorganic nitrogen and phosphorus in Discovery Bay, Jamaica. *Limnology and Oceanography* 51 (5): 2206-2220, 2006

* Hassan I, Antao SM, Parise JB. Cancrinite: Crystal structure, phase transitions, and dehydration behavior with temperature, *American Mineralogist* 91 (7): 1117-1124, 2006

* Antao SM, Hassan I, Crichton WA, Parise JB. Effects of high pressure and high temperature on cation ordering in magnesioferrite, $MgFe_2O_4$, using in situ synchrotron X-ray powder diffraction up to 1430 K and 6 GPa, *American Mineralogist* 90 (10): 1500-1505, 2005

* Antao SM, Hassan I, Parise JB. Cation ordering in magnesioferrite, $MgFe_2O_4$ to 982 degrees C using in situ synchrotron X-ray powder diffraction. *American Mineralogist* 90 (1): 219-228, 2005

* Hepburn SA, Jackson YA. A concise synthesis of further thiophene analogues of kuanoniamine A. *Heterocycles* 68 (5): 975-981, 1 2006

* Blake OA, Bennink MR, Jackson JC. Ackee (Blighia sapida) hypoglycin A toxicity: Dose response assessment in laboratory rats, *Food and Chemical Toxicology* 44 (2): 207-213, 2006

* McAnuff MA, Harding WW, Omoruyi FO, Jacobs H, Morrison EY, Asemota HN. Hypoglycemic effects of steroidal sapogenins isolated from Jamaican bitter yam, Dioscorea polygonoides, *Food and Chemical Toxicology* 43 (11): 1667-1672, 2005

* Cammack R, Fann Y, Lancashire RJ, Maher JP, McIntyre PS, Morse R. JCAMP-DX for electron magnetic resonance(EMR). *Pure and Applied Chemistry* 78 (3): 613-631, 2006

* Maragh PT, Thomas SE, Dasgupta TP. Kinetics and mechanism of the aquation of the trinuclear cation, [mu(3)-oxo-triaqua-hexakis(acetato)tris(iron(III))](+) in perchloric acid media, *Inorganica Chimica Acta* 358 (13): 3610-3616, 2005

* Bakir M, Biggs DAC, Lough A, Mulder WH, Reynolds W, Porter RB. 7-acetyl-12-methoxyhorminone from Jamaican Hyptis verticillata (Labiatae), *Acta Crystallographica Section E-Structure Reports Online* 62: O306-O308 Part 1, 2006

* Lamm AS, Reynolds WF, Reese PB. Bioconversion of Stemodia maritima diterpenes and derivatives by Cunninghamella echinulata var. elegans and Phanerochaete chrysosporium, *Phytochemistry* 67 (11): 1088-1093, 2006

* Chen ARM, Ruddock PLD, Lamm AS, Reynolds WF, Reese PB. Stemodane and stemarane diterpenoid hydroxy- lation by Mucor plumbeus and Whetzelinia sclerotiorum, *Phytochemistry* 66 (16): 1898-1902, 2005

* Singh-Wilmot MA, Kahwa IA, Lough AJ. Tetrakis μ2)-2,6-diformyl-4-methylphenolato)tetra-μ3-hydroxo-tetrakis

[diaquaneodymium(III)] tetrakis(perchlorate) ethanol disolvate, *Acta Crystallographica Section E-Structure Reports Online* 62: M113-M115 Part 1, 2006

Non-refereed

* Lancashire RJ, Davies AN. "Spectroscopic Data: The Quest for a Universal Format", Chemistry International 28(1), 10-12, January-February 2006. Reprinted in: Chemistry in Australia, 73(2): 17-19, 2006.

* Davies AN, Lancashire RJ, Lampen P. "Embedding spectra and structures in your web pages", Spectroscopy Europe 17(5), 28-30, 2005.

Technical Reports

Anthony M. Greenaway

* Caustic soluble phosphorus in Jamalco bauxites: First Quarterly Report. Khadeen E. Henry, Michael D. Coley and Anthony M. Greenaway. Submitted to Jamalco and Alcoa World, August 31, 2005. 59 pages

* Caustic soluble phosphorus in Jamalco bauxites: Second Quarterly Report. Khadeen E. Henry, Kamille K. Gyles, Michael D. Coley and Anthony M. Greenaway. Submitted to Jamalco and Alcoa World, February 21, 2006. 74 pages.

* Caustic soluble phosphorus in Jamalco bauxites: Third Quarterly Report. Khadeen E. Henry, Kamille K. Gyles, Michael D. Coley, Anthony M. Greenaway. Submitted to Jamalco and Alcoa World, May 18, 2006. 78 pages.

* Caustic soluble chromium, manganese, copper, zinc and cadmium in Jamalco bauxites. First Quarterly Report. Alicia N. Bucknor, Michael D. Coley, Anthony M. Greenaway. Submitted to Jamalco and Alcoa World, August 1, 2005. 55 pages.

* Caustic soluble chromium, manganese, copper, zinc and cadmium in Jamalco bauxites. Second Quarterly Report. Alicia N. Bucknor, Michael D. Coley, Anthony M. Greenaway. Submitted to Jamalco and Alcoa World, February 21, 2006. 61 pages.

* Caustic soluble chromium, manganese, copper, zinc and cadmium in Jamalco bauxites. Third Quarterly Report. Alicia N. Bucknor, Michael D. Coley, Anthony M. Greenaway. Submitted to Jamalco and Alcoa World. May 15, 2006. 68 pages.

INCOME GENERATION

Research Grants

Dr. Anthony Greenaway

The Caustic Soluble Impurities in Jamalco Bauxites: Funded by Jamalco and Alcoa World continues.

UWI New Initiative grant of **J$1,485,999.00** to purchase field equipment for project on the use of remote sensing data to assess water quality.

Dr. Winklet Gallimore

Funding from the Campus Research and Publications – **US$2,000.00**

Grant from the University of Mississippi – **US$3,180.00.**

Professor Yvette Jackson

Royal Society of Chemistry (2006) – **£1,000.00,** Synthesis of Aza- and Diazarotenoids

DuPont Crop Protection, Stine-Haskell Research Center – **US$3,600.00.**

Ishenkumba Kahwa received **J$1.5 Million** from the New Initiative fund for the project 'Hazardous materials in the informal sector' and **US$3,000** from the Research and Publications grants programme for his team's work on novel lanthanide clusters. US$17,000 was secured from the Inter-American Association of Academies of Science for the science educational activities in the CARICOM region including a regional science conference.

Dr. Donna Minott-Kates received grants totalling **J$375,000.00** from Research and Publication for three MPhil projects.

Dr. Roy Porter received a New Initiative grant of **J$1.5M** for the research project titled Investigation of chemical composition and biological activity of the essential oils from six Jamaican species of the *Hyptis* Genus.

Professor Paul Reese received **US$2,000.00** from the Board for Graduate Studies, Mona to cover costs involved in identification of isolated marine fungi.

Dr. Novelette Sadler-McKnight received **$500,000** from the STT to support joint research initiative in Chemical Education.

Commercial Activity

Prof Tara Dasgupta's Pesticide Research laboratory generated **J$2** Million from analytical services.

Anthony Greenaway's commercial analyses generated **J$590,000.00**

Donna Minott's hypoglycin production generated **J$32,000.00**

Prof. Ishenkumba Kahwa's hazardous materials project generated about **J$8** Million including a **J$6.47M** grant from the Environmental Foundation of Jamaica (EFJ) to clean up asbestos from the Old Harbour Succaba Pen Community.

Dr. Novelette Sadler-McKnight generated **$2 Million** from the sale of kits, manuals, workshops and the use of laboratory facilities.

PUBLIC SERVICE

Professor T. Dasgupta:

- Chief Editor, *Jamaican Journal of Science and Technology*
- Member, BSJ Committee for designing Metrology Building
- Member, National Agricultural Health and Food Safety Coordinating Committee
- Member, Board of Editors, Inorganic Reaction Mechanisms.
- Referee for Inorganic Chemistry, Dalton Transaction, *International Journal for Chemical Kinetics, West Indian Journal of Engineering*
- Member, Pesticide Residue Monitoring Committee
- President, Caribbean Academy of Sciences

Dr. A. Greenaway:

- Member, National Ozone Commission
- Member, BSJ/NEPA Phosphate Technical Committee

Professor Y. Jackson

- Consultant, Tanaud International
- Regional Editor, MOLECULES
- Foreign Research Mentor for the Minority International Research Training Programme, Barry University, Florida
- Member , Board of Governors, Hampton High School, St. Elizabeth
- Member of the Strategic Transformation Team
- Coordinator of the First Year Experience (FYE)

Professor H. Jacobs:

- Member, Project Steering Committee for Enabling Activities for Jamaica to Develop and implement the National Implementation Plan for the Persistent Organic Pollutants (POPs) Convention

Professor R. Lancashire:

- University Representative, Board of the Jamaica Computer Society Education Foundation
- Executive Member, Jamaica Society of Scientists and Technologists
- Leader, IUPAC Task Group on EMR data structures

Dr. P. Maragh:

- Faculty Representative, FPAS on WIGUT Executive
- Member, National Industrial Safety Committee, Bureau of Standards
- Member, Museums Advisory Board, Institute of Jamaica

Dr. D. Minott-Kates:

- Director, Better Process Control School

- Patron, Project Smiles (Jamaica AIDS Support for Life)
- Member, Minister of Commerce, Science & Technology Technical Committee to examine problems in the ackee industry associated with high hypoglycin levels.

Dr. W. Pinnock:

- Member, National Radiation Safety Council, Ministry of Health, Government of Jamaica.
- Member, Steering Committee for Food Irradiation, National Commission of Science and Technology

Dr. R. Porter:

- Member, Bureau of Standards Propane-Butane technical committee.

Professor P. Reese:

- Member, Equine Drug Testing Committee
- Member, Product Research & Development Committee, Scientific Research Council.

Dr. N. Sadler-McKnight:

- Member, Technical and Finance Committee, Scientific Research Council
- Council member, Jamaica Society for Scientists and Technologists (JSST).
- Executive Secretary, Alumni and Friends of the Department of Chemistry, UWI, Mona (CHEMSAF).

Dr. M. Singh-Wilmot

- Member, Organizing Committee, Caribbean Advanced Proficiency (CAPE) Workshop.

CATEGORIES OF STUDENTS

TOTAL STUDENT ENROLMENT IN CHEMISTRY COURSES

LEVEL	2003/2004	2004/2005	2005/2006
Preliminary	397	420	412
Introductory	533	557	613

Advanced	845	883	976
Postgraduate (Research students)		61	70

Undergraduate Awards

A total of seven undergraduate students from the Department received awards ranging from $10,000 to $60,000 for their academic achievements in Chemistry.

Postgraduates

Ms. Julie-Ann Grant, Mr. Floyd Russell and Kay-anne McCook have been upgraded to Ph.D. status while the following **six** graduate students completed requirements for the Doctor of Philosophy degree:

Ms. Camille Bowen

Ms. Petrea Facey

Mrs. Debbie Gordon-Smith

Mrs. Roxanne Richards-Johnson

Ms. Shelley McKenzie

Mr. Chadwick Anderson