



DEPARTMENT OF PATHOLOGY

Dr. Gilian Wharfe – Head of Department

WORK OF THE DEPARTMENT

The department continues to strive for excellence and to meet the requirements of the UWI strategic plan. However we are continually beset with financial challenges that hamper our progress. This year we were unable to meet the target of two publications per staff per year publishing only eight peer reviewed papers, three abstracts and two book chapters. Nevertheless we remain committed to research and innovation and were able to continue our collaboration with SickKids, NIH and also to secure a grant to continue research on Breast Cancer and a new grant proposal was submitted to NNHF. The Cytogenetics Lab continues its research in cytogenetics and to train staff in *fluorescence in situ hybridization* (FISH) which the laboratory hopes to start performing soon. Also, several members of the department were asked to contribute to an article on Cancer control to be published in the Lancet as detailed below.

Laboratories and Autopsy Service

The Histopathology Laboratory accessioned and processed 9,691 surgical cases which generated 50,958 tests. Total immunohistochemistry tests were 1,446. The Cytology Laboratory processed 3,076 pap smears 2371 gynaecological and 705 non-gynaecological cases. A total of 97 autopsies were performed, 26 perinatal and 71 adults. The Chemical Pathology Laboratory performed a total of 5,866 tests and Routine Haematology Laboratory performed 109,425 tests. The Blood Bank processed 3,560 blood donors and performed 19,477 tests.

Histology Laboratory

Miss Joyce Sterling attended the 44th Annual National Society for Histotechnology (NSH) Symposium/Conference held at the America's Center Convention complex St.

Louis, Missouri from September 21–26, 2018. By attending the NSH Symposium she gained new insight in modern methodologies and opportunities available in Histotechnology which can be of great value to the practice of Histotechnology/Medical Technology in Jamaica. One such technique is the processing of tissue without the use of xylene, which may be replaced by isopropanol which is environmentally friendly and significantly less toxic. She also participated and won a competition for which she was awarded textbooks, flash cards, cover slips Thermo Scientific Disposable Hoppers for automatic staining machine and glass slides, which she donated to the department.

Accreditation

In the academic year 2018/2019, tests in the sub-disciplines of Chemical Pathology, Haematology, Cytology and Flow Cytometry Laboratories in the Department of Pathology were accredited by the Jamaica National Agency for Accreditation (JANAAC), effective October 8, 2018 for 4 years with yearly surveillance visits to the Department by JANAAC assessors. The four medical laboratories received ISO 15189 certification. JANAAC is the national accreditation body of Jamaica and is a signatory to the International Laboratory Accreditation Cooperation (ILAC), Mutual Recognition Arrangement (MRA) which promotes international confidence and acceptance of results from accredited laboratories. As an accredited laboratory, the Department of Pathology is now able to use the JANAAC logo and accreditation symbol on its reports and certifications.

TEACHING & LEARNING

Undergraduate Programmes

The Department remains committed to the teaching of Pathology in both Stages I and II of the MBBS programme, delivering lectures in all aspects and sub-specialties of Pathology. Every ten weeks 50–70 students rotate and sit the Pathology/Microbiology Stage II examination.

Graduate Programmes

The DM programmes in the department continue, with offerings in Anatomical Pathology, Haematology/Oncology and Chemical Pathology. Three residents were accepted in the DM Anatomical Pathology programme this year making a total of seventeen residents in the programme. One was accepted in the DM Haematology/Oncology programme, bringing the total to ten residents in the programme. Three candidates sat the DM (Pathology) Part I examination in November/December 2018 and were successful and two sat the DM (Pathology) Part II exit examination in November/December

2018 and were also successful. One candidate sat the DM (Haematology/Oncology) exit examination in June 2019, and was successful.

RESEARCH & INNOVATION

Jamaica Cancer Registry

Work of the Unit

The registration of cancers continued at the University Hospital of the West Indies. Cancer registration from other institutions in Kingston & St. Andrew was far less problematic than during the academic year 2017/2018, but further improvement is required.

Personnel

The nurse registrar staff complement remains at two (2). The registry requires an additional registrar to register cancer deaths.

Research

One research paper was published and this was produced from the work of a supervised project undertaken by UWI Mona medical student (now graduated) Krystal Mills:

International Association of Cancer Registries (IACR) Membership

The registry's IACR membership was renewed.

Future goals

Mortality registration

The registry continued to lobby for one additional registrar, in order to commence cancer mortality registration, but no post has yet been created.

Cytogenetics Laboratory

Work of the Laboratory

The Laboratory accessioned 20 blood specimens for karyotyping.

Staff Complement

1 Pathologist/Cytogenetics Analyst

1 Acting Laboratory Manager/Medical Technologist

1 Laboratory Technologist

Appointments

A Senior Medical Technologist from the subdepartment of Chemical pathology, returned home from a period of study in the United Kingdom, where she pursued the degree of Master of Science in Biomedical Sciences. On her return to Pathology on October 1, 2018, she was assigned to the Cytogenetics laboratory, and she has been acting in the post of Laboratory manager since February 2019.

Training

Mrs. Sandra Hing, Molecular Geneticist and Senior Laboratory Adviser to NHS England, spent two weeks in the laboratory (March 27–April 10, 2019), training staff in fluorescence *in situ* hybridization (FISH), as part of the department's plan to further develop the Cytogenetics Laboratory. This will allow for expanded clinical services, improved laboratory efficiency as a result of an increase in trained staff, and increased research capacity.

Teaching

The Department of Pathology hosted an elective student Ms. Suzelin William from the University of Bradford, United Kingdom, for the period July 18 to August 2, 2019. During the period she rotated through two of our laboratories Cytogenetics (July 18–26) and Routine Haematology (July 29–August 2).

The section of Haematology hosted a graduate student Ms. Sonia Reid, from University of Vanderbilt who did an elective as part of her Public Health Masters programme. She did research on Breast cancer and had been able to secure a grant to continue this work in September 2019. The candidate worked closely with Drs. Gibson, Thompson and Wharfe as well as members of the Community Health and Psychiatry Department to do this study.

Future Collaboration

Mrs. Hing is expected to return to the laboratory in 2020, in order to perform an evaluation of FISH testing, which it is hoped that the laboratory will be commencing early that year. She will hopefully also be able to train staff in molecular testing for tumours.

Future Goals

- Further training for medical technologists in FISH and molecular testing
- Re-establishment of FISH testing in 2020
- Introduction of molecular testing for tumours

Initiatives/Activities

Haemophilia Research

This area continues to be active as we continue to register patients in the redcap registry created during the conduct of the Novo Nordisk Haemophilia Foundation (NNHF) grant. We also had a study approved by Mona Ethics research committee to conduct the assessment of an on-line tool for joint assessment in haemophiliacs. Jamaica and UWI were the only Caribbean country and Caribbean University included in the research which was to be conducted in August 2019.

In addition, a new grant proposal to NNHF was submitted.

We continue to work closely with World Federation of Haemophilia to provide training and clotting factor concentrates to persons with haemophilia.

Sick Kids – Caribbean Collaboration

This initiative continues with funding available for another 3 years. The areas of focus continue to be acute leukaemia and Haemophilia.

Recently the American Society of Hematology (ASH) will be conducting a treatment trial to include UHWI patients with Acute leukaemia. The study has received Ethics approval. This study aims to demonstrate that less aggressive therapy for these patients can result in positive outcomes with a reduction in early deaths due to treatment toxicity.

National Institute of Health (NIH) collaboration

Dr. Magdelene Nwokocha secured a Canada-Caricom scholarship in July 2019 and is due to go to Canada in September for a 6-month period for training in Haemostasis and blood Banking in order to enhance the current expertise in these two areas. This will be done under the supervision of staff at Sickkids Hospital and St. Michaels Hospital both in Canada.

Haematology section was contacted by NIH to participate in a trial to enroll patients with Aplastic Anaemia to receive early treatment. There was a planned visit by the team from NIH for September 2019 to assess the sites suitability to enroll patients. The Principal Investigators on this would be Drs. Brady-West and Wharfe.

The HTLVI collaboration with NIH continues with referrals for treatment and follow up of cases with this deadly disease as we seek to improve outcomes for these patients.

Lancet

Several members of staff (Drs. Gibson, Wharfe and Professor Hanchard) were asked to contribute to an article as part of a series of articles on Cancer Control in small island nations. This article is due for publication in Lancet Oncology in August 2019 and includes 65 authors from 27 countries.

PAPERS PRESENTED AT CONFERENCES AND SEMINARS

Poster Presentation

- M. Nwokocha, D. Brady-West, G. Wharfe “Acute Blood Transfusion Reactions in the University Hospital of the West Indies” Faculty of Medical Sciences 27th Annual Research Conference, November 8–11, 2018.

Presentations

- L. Williams, M. Bakir, D. McGrowder, N. Chukwuemeka, and H Asemota. “Use of metallic semicarbazone complexes in the management of type-2 diabetic rat”. The 25th Annual Diabetes Conference on Diabetes and the Heart, April 25–27, 2019 at The Jewel Runaway Bay, St. Ann Jamaica. *Jamaica Journal of Science and Technology Vol. 29* (supplement 4):51
- D. Lowe, “Targeted Therapy in colorectal Cancer.” Annual Colon Cancer Symposium, Pegasus Hotel, March 10, 2019.
- D. Lowe, “Risk Reduction Strategies for Breast Cancer.” Annual Breast Cancer Symposium, Pegasus Hotel, October 7, 2018.
- Lecture to Medical Representatives in the Caribbean on Current management of Chronic Lymphocytic Leukaemia, **Gilian Wharfe**, [Online] May 2019
- Association of Surgeons – “Neoadjuvant chemotherapy in Breast cancer”; **Gilian Wharfe**, Kingston, Jamaica, May 2019
- Jamaica Cancer Society Dr. Joseph Hall Memorial Lecture- “NCCN Harmonized guidelines in Cervical cancer”; **Gilian Wharfe**, Kingston, Jamaica, April 2019.

BOOK CHAPTER

- Sherune Gardner, Natwaine & JS Luke, Kedon & Wheatley, A.O. & G. De La Haye, Winston & Bahado-Singh, Perceval & Dilworth, Lowell & McGrowder, Donovan & Barton, Everard & Young, Lauriann & Salako-Akande, Ajibike &

Lowe, Henry & Morrison, Errol & Eldemire-Shearer, Denise & Asemota, Helen. (2019). Plasma Cocaine metabolite Levels and Liver CYP450 3A4 Isoenzyme Activity as Indicators of Cocaine metabolism in Rats Treated With Salako Supplements. In book: Strategic Application of Measurement Technologies and Instrumentation, Chapter: 1, Publisher: IGI Global Advances in Chemical and Materials Engineering (ACME) Book Series, pp.1 – 21. DOI: 10.4018/978-1-5225-5406-6.ch001.

- **D. Tucker, M. Anderson, F. Miller K. Vaz, L. Anderson-Jackson and D. McGrowder** (2019). Dietary antioxidants in the chemoprevention of prostate cancer. IntechOpen, DOI:10.5772/intechopen.85770. Available from: <https://www.intechopen.com/online-first/dietary-antioxidants-in-the-chemoprevention-of-prostate-cancer>

PUBLISHED ABSTRACT

- Foster, S. R., **Dilworth, L.L.**, Omoruyi F.O., and Alexander-Lindo R. L. (2019)
- Combined Inositol Hexakisphosphate and Inositol displays anti-diabetic and antioxidant properties in Streptozotocin-induced Type 2 Diabetic Rats. *Jamaican Journal of Science & Technology*, 29(4), 49.
- Eon Campbell, Rachael Inving, **Lowell Dilworth** and Janel Bailey, “Biochemical and physiological stress and analysis in Jamaican junior track and field athletes during a season.” 2019 Annual Meeting, 10th World Congress of Exercise Is Medicine and World Congress on the Basic Science of Exercise, Circadian Rhythms and Sleep. Orlando, 2019.
- Eon Campbell, Rachael Irving, **Lowell Dilworth**, Janel Bailey (2019). Evaluating physiological stress response in Junior level track and field athletes. ACSM 60th annual meeting 2019. *Medicine and Science in sports and exercise*. 51:5.

REFEREED JOURNAL ARTICLES

- Eon Campbell, Rachael Irving, Janel Bailey, **Lowell Dilworth** and Wendel Abel, “Overview of psychophysiological stress and the implications for junior athletes.” *American Journal of Sports Science and Medicine*, 6(3), 2018: 72–78.
- **Gibson TN**, Beeput S, Gaspard J, Geprge C, Gibson D, et al. “Baseline characteristics and outcomes of children with cancer in the English-speaking Caribbean: A multi-national retrospective cohort”. *Pediatr Blood Cancer* 2018 Dec;65(12):e27298. Doi:10.1002/pbc.27298.Epub 2018 aug 9.
- Mills KCS, **Gibson TN**, McNaughton DP, Hanchard B. “Oesophageal carcinoma in Jamaica, 1978–2007: Histological distribution and trends in incidence.” *West Indian Med J* 2019 [Epub ahead of print Feb 26, 2019; DOI: 10.7727/wimj.2018.015]

- D. McGrowder, D. Tucker and F. Miller. Prostate specific antigen in a tertiary teaching hospital. *Indian Journal of Applied Research* 2019; 9(3):4–7.
- P. Barrett-Brown, D. McGrowder and D. Ragoobirsingh. The level of satisfaction of diabetic patients with healthcare personnel attending outpatient health clinics in Jamaica. *International Journal of Diabetes and Clinical Research* 2019;6:101.
- Wharfe, G., Buchner-Daley, L., Gibson, T., Hilliard, P., Abad, A., Boma-Fischer, L., Bouskill, V., Floros, G., Lillicrap, G., Lowe, Y., Lowe, D., Palmer-Mitchell, N., Rand, M.L., Teitel, J., Watson, A., White, R., Young, N.L. & Blanchette, V.S. (2018). The Jamaican Haemophilia Registry: Describing the burden of disease. *Haemophilia*, 24 (4), e179– e186. Impact factor 2.673. H Index – 84.
- Usuba, K., Price, V.E., Blanchette, V.S., Abad, A., Altisent, C., Buchner-Daley, L., Carneiro, J., Feldman, B.M., Fischer, K., Grainger, J., Holzhauer, S., Luke, K., Meunier, S., Ozelo, M., Tang, L., Antunes, S., Villaça, P., Wakefield, C., Wharfe, G., Wu, R. & Young, N.L. (2019). Impact of prophylaxis on health-related quality of life of boys with hemophilia: An analysis of pooled data from 9 countries. *Research and Practice in Thrombosis and Haemostasis*, 3 (3): 397–404. Impact factor – not available. H Index – not available.
- Roberts, P., Powell, L., Wharfe, G., Shah, S., Johnson, P., Thompson, R., Williams, N., & Arthurs, A. (2019). Colorectal cancer: guidelines to management. *West Indian Medical Journal*, 68 (Supp. 2), 27–38. doi 10.7727/wimj.2018.195. Impact factor 0.28. H Index – 28.

PUBLIC SERVICE

Dr. D. McGrowder

- Member, Accreditation Evaluation Committee, Jamaica National Agency for Accreditation (JANAAC)

Professor B. Hanchard

- Cytopathology Consultant, Jamaica Cancer Society

C. Escoffery

- Cytopathology Consultant, Jamaica Cancer Society

Dr K Bishop

- Cytopathology Consultant, Jamaica Cancer Society

Dr. S. Shirley

- Cytopathology Consultant, Jamaica Cancer Society

Dr. M Bromfield

- Cytopathology Consultant, Jamaica Cancer Society

Dr. T. Gibson

- Cytopathology Consultant, Jamaica Cancer Society

Dr. L Dilworth

- Board Member, North Eastern Health Regional Authority
- Board Member, University Council of Jamaica
- Board Member, The Council of Community Colleges of Jamaica

Dr. N. Williams

- Cytopathology Consultant, Jamaica Cancer Society

Dr. G. Wharfe

- Chair, Haemophilia Society of Jamaica
- Member, Oncology Advisory Board, National Health Fund

Dr. J. Jaggon

- Cytopathology Consultant, Jamaica Cancer Society

Dr. S. Chin

- Oncology Advisory Board, National Health Fund, Jamaica

Dr. D. Lowe

- Volunteer Clinician, National Blood Transfusion Service

INCOME GENERATION

- Fee paying account out patients
- Services for Tony Thwaites Wing
- Fee collection in Accident and Emergency area

DISTINGUISHED VISITORS TO THE DEPARTMENT

- Dr. Andrew Evans, Department of Pathology, University Health Network, Toronto, Canada – December 3–7, 2018
- Mrs. Sandra Hing, Molecular Geneticist and Senior Laboratory Adviser to NHS England – March 27–April 10, 2019
- Professor Juliet Daniel, Department of Biology, McMaster University, Hamilton, Ontario, Canada

AWARDS

HTLVI project received the Principal's Research Award for research project attracting the most research funds in Faculty of Medical Sciences Research Day 2019.

Students – Undergraduate

Dajoun Collins – Pathology/Microbiology Medal – Best Overall Performer.

Dajoun Collins – Prof. Stanley Brooks Book Prize – Best Overall Performer (Pathology).