



DEPARTMENT OF MICROBIOLOGY

Departmental Report August 2020 - July 2021

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MBBS,DM(UWI)

WORK OF THE DEPARTMENT

The Department continues to be guided by the University's Triple A strategy of Access, Alignment & Agility as is shown by the approach to its academic programmes as well as its diagnostic portfolio. In a year of tremendous challenges, the Department has had to think outside the box to achieve its goals while contending with the pandemic which started from the previous academic year. By the end of July 2021, the Department had done PCR testing on over 60,000 samples and had, in addition conducted antigen as well as antibody testing.

ACCESS

STUDENTS

Over the year in review, teaching was largely done online with innovative ways to keep participants interested. The Department continued to foster a learning environment by hosting seminars/ symposia to focus on topical issues such as COVID 19 and its complications. Persons with exposure to different areas were encouraged to highlight

research findings. The use of ZOOM and other platforms, has definitely increased access to cutting edge information and also provided opportunities for multi-disciplinary collaboration.

Postgraduate degree: DM Medical Microbiology: The training of Medical Residents in Medical Microbiology over a 4-year period continues to produce Microbiologists capable of addressing challenges in the field, as they arise. UWI Mona is the only UWI campus that offers the DM Medical Microbiology programme and in 2020/2021, the degree was awarded to: Drs. Kereann Nelson, Camille Blake and Ynolde Leys.

The introduction of a **Postgraduate Diploma** programme in **Infection Prevention & Control (IPC) in the Healthcare Setting**, at this time is a strategic move. The programme was developed by Dr A Nicholson and has been approved by the UWI for introduction in its campuses in 2021/22 academic year! This discipline has grown exponentially in the developed countries over the last twenty years but has lagged behind in the Caribbean and other developing countries. The deficit in this area has been brought into sharp focus by the SARS CoV2 pandemic. The introduction of this programme at this time, will help to address the critical need for formal training in this area, in the Region.

The Caribbean Association of Clinical Microbiologists (CACM), co-founded by Dr ANicholson and now led by Drs. Glendee Reynolds-Campbell (President), Karen Roye-Green

(Treasurer), Camille-Ann Thoms-Rodriguez (Secretary) and Alison Nicholson (Country Representative), hosted a regional symposium in October 2020 on infections including COVID-19 as well as those caused by multidrug resistant bacterial pathogens. The participation from across the Caribbean was impressive

The SUNY-UWI Health Research Consortium: Professor John Lindo remained Co-Chair of the SUNY-UWI Health Research Consortium (with Professor Gene Morse, University at Buffalo, SUNY) and many initiatives were undertaken such as: 1) **The engagement of the**

Jamaican Diaspora through The National Association of Jamaican and Supportive

Organizations (NAJASO). Along with SUNY-UWI Health Research Consortium, a new scholarship program was established that enables The University of the West Indies (The UWI) students to participate in certificate programs offered by the University at Buffalo School of Management. The initiative will open the UB Leadership Empowerment Academy Program (LEAP) to students in The UWI Mona School of Business and Management in Jamaica, through which they will learn and develop innovative strategies for creating sustainable business models in health care.

2) The NIH-Fogarty Global Infectious Diseases Research Training Program: There are currently four postdoctoral fellows enrolled in this **Training Program**. Currently there are four postdoctoral fellows enrolled in the program inclusive of Drs Michelle Brown, Yolde Leys, Kereann Nelson and Ms Tiffany Butterfield. The program also admitted Messrs Simmoy Noble and Mario Golding as pre-doctoral Fellows. The program which is in its fourth year has started to produce papers.

3) Establishment of the Pelvic Oncology Centre of Excellence: During the period under review the SUNY-UWI Health Research Consortium started the groundwork for the development of a Pelvic Oncology Center of Excellence at the Monaca campus. [A 2nd joint session between the SUNY-UWI Health Research Consortium and the SUNY](#)

Global Health Institute held in April 2021, using Zoom video conferencing, attracted a large number of participants and was very well received.

PUBLICATIONS:

[Refereed Journal Articles](#)

- Clarke, Kellyann, Roy Porter, Petrea Facey, Trevor Yee, and Camille Thoms-Rodriguez. "Chemical composition and biological activities of *Pimenta richardii*." *Flavour and Fragrance Journal* 36, no. 2 (2021): 272-
- Cheung, Donna A., Alison Nicholson, Tiffany R. Butterfield, and Marsha Da Costa. "Prevalence, co-infection and antibiotic resistance of *Escherichia coli* from blood and urine samples at a hospital in Jamaica." *The Journal of Infection in Developing Countries* 14, no. 02 (2020): 146-152.
- Pearson K., Reynolds G., Lindo J. Patterns in neonatal sepsis at the University Hospital of the West Indies. *International Journal of Infectious Diseases*. 2021; 101(S1)
- Zika Consortia Vertical Transmission Study Group. "Zika virus infection in pregnancy: a protocol for the joint analysis of the prospective cohort studies of the ZIK Alliance, ZIK PLAN and ZIK Action consortia." *BMJ Open*. 2020 Dec;10(12):e035307. (Anzinger et al)
- Butterfield TR, Bruce-Mowatt A, Phillips YZR, Brown N, Francis K, Brown J, Walker

JP, McKnight N, Ehikhametalor K, Taylor D, Bruce CA, McGrowder D, Wharfe G, Sandiford SL, Thompson TK, Anzinger JJ. "Assessment of commercial SARS-CoV-2 antibody assays, Jamaica." *Int J Infect Dis*. 2021 Apr;105:333-336.

- Gallant Ali Hassan, Jie Chang, Fahmida Aslam, Amna Saeed, Sundus Shukar, FarhatKhanum, AmmarJairoun, **AlisonNicholson**, Mohamed Izham Mohamed Ibrahim, and Yu Fang. "Public knowledge, attitude, and practice regarding antibiotics use in Punjab, Pakistan: a cross-sectional study." *Expert Review of Anti-infective Therapy* 19, no. 3(2021):399-411.
- Salim V, Viegas M, Trento A, Agoti CN, Anderson LJ, Avadhanula V, Bahl J, Bont L, Brister JR, Cane PA, Galiano M, Graham BS, Hatcher EL, Hellferscee O, Henke DM, Hirve S, **Jackson S**, Keyaerts E, Kragten-Tabatabaie L, Lindstrom S, Nauwelaers I, Nokes DJ, Openshaw PJ, Peret TC, Piedra PA, Ramaekers K, Rector A, Trovão NS, vonGottberg A, Zambon M, Zhang W, Williams TC, Barr IG, Buchholz UJ. Proposal for Human Respiratory Syncytial Virus Nomenclature below the Species Level. *Emerg Infect Dis.* 2021 Jun; 27(6):1-9.
- Cameron-McDermott, Suzette M., Geoffrey J. Barrow, Alicia M. Webster, Carrington O. De La Haye, Denise HE Wood, Violet M. Lewis, Alison Nicholson, Glendee Y Reynolds-Campbell, Camille-Ann Thoms-Rodriguez, Karen J Roye-Green, Nakeisha Otto-Stewart, Zahra, N Miller, Jennifer A Tomlinson, Nicola Skyers, Magnus Unemo, - **Joshua J Anzinger** . "Antimicrobial susceptibility of Neisseria gonorrhoeae isolates and syndromic treatment of men with urethral discharge in Kingston, Jamaica, 2018–19." *Journal of Antimicrobial Chemotherapy* (2021).
- **McKnight, N**, and G. Reynolds. "The utility of HIV screening for emergency room patients at the University Hospital of the West Indies." *International Journal of Infectious Diseases* 101 (2020): 287-288

Poster Presentations

- Christie, O, Thoms-Rodriguez, C, Miles Saunders L, Reynolds-Campbell G, Heslop O. "Clostridioides difficile - Inferences from an Analysis of a Cluster of Clinical Isolates." *The World Microbe Conference via Zoom videoconferencing.*
- Kerr JS, Aiken W, Gossell-Williams M, Dawson F, Stone S, Nicholson A, Thoms-Rodriguez C. "Detection and Prevalence of "Superbugs" among Urinary Isolates of Patients with Complicated Urinary Tract Infections at a Tertiary Care Hospital in the Caribbean – A Pilot Study." at the Caribbean Public Health Agency (CARPHA) Conference.
- Stone S, Thoms-Rodriguez C, Stephenson-Clarke S. "Detection of Extended-Spectrum β -lactamase (ESBL) Producing Gram Negative Uropathogens in Patients at a Tertiary Care Hospital in Jamaica." at the World Microbe Conference via Zoom videoconferencing

ALIGNMENT

A 4th initiative of The SUNY-UWI Health Research Consortium includes Collaboration between the University at Buffalo School of Management and The UWI Mona School of Business and Management for the development of sustainable plans for health research

projects: The collaboration engaged students from The University of the West Indies and the University at Buffalo (UB) along with mentors from both institutions and the Jamaican diaspora to develop business plans to sustain projects on health informatics and diabetes care. In addition, students from the Mona School of Business and Management participated in the University at Buffalo, Global Leadership with students from Ghana, Kenya and Latvia. Through the programme, participants are encouraged to understand their own leadership preferences and styles while working with peers from different parts of the world. The students were challenged to adopt a critical approach to course content and to recognize the opportunities available to encourage leadership in their networks both locally and globally.

Genome Sequencer (Illumina Miseq System):

In July 2021, negotiations began for the acquisition of a genome sequencer. The instrument which cost over Ja\$40m was offered to the Department through Dr A Nicholson (HOD), should arrive in the island by October 2021. This will open new vistas for research and dramatically improve the type of research that can be done improve diagnostic capability of the laboratory especially in the face of the SARS-CoV-2 mutants. While COVID-19 may have affected the research programme of the department by its demands, it has already provided many opportunities for improved collaborative research. The acquisition of a mass spectrometer (MALDI-TOF)

Papers Presented: Oral Presentations

Jackson S. Smikle M. A close look at new SARS-CoV-2 strains – is it more of the same? "COVID-19-19: Making New Year's Resolutions Telecon" - January 2021. Faculty of Medical Sciences, UWIMona.

- **Jackson S. Smikle M.** The COVID-19-19 Vaccine-Its Development and Safety". Annual General Meeting of the Jamaica Dental Association. January 2021.
- **Jackson S.** Preventing Adult Illnesses through Vaccinations. Jamaica Midlife Health Society. March 2021.
- **Jackson S. Smikle M.** COVID-19-19 Vaccine. Medical Laboratory Professionals Week 2021. Caribbean Association of Medical Technologists. April 2021.

- **Jackson S., Smikle M.** "Vaccination in COVID-19 pandemic. Caribbean College of Family Physicians Jamaica Chapter. May 2021.
- **Jackson S. Smikle M.** Coronaviruses: The Virology Explored through SARS-CoV-2 Medical Association of Jamaica. June 2021.
- **Jackson S.** WHO Global RSV Surveillance- Phase 2. Progress status – Laboratory Aspects. WHO Meeting to Review Progress in Phase-2 of the RSV Surveillance based on the GISRS. WHO, Geneva, Switzerland. Virtual Meeting. June 2021.
- **Jackson S, Williams T, Rughooputh S.** WHO RSV EQA 2019-2020. WHO Meeting to Review Progress in Phase-2 of the RSV Surveillance based on the GISRS. WHO, Geneva, Switzerland. Virtual Meeting. June 2021.
- **Thoms-Rodriguez C.** "Antibiotics in Upper Respiratory Tract Infections – Resistance and Recommendations". Speaker at the 10th Annual Scientific Meeting of the Jamaica Association of Otolaryngologists – Head & Neck Surgeons, November 1, 2020 via Zoom-video conferencing.

PUBLIC SERVICE

- Member, Caribbean Sub-regional Certification Committee for the Global Eradication of Poliomyelitis. Pan American Health Organization (PAHO). 2015-Present.
- Member, The Arbovirus Diagnostic Network of the Americas (RELDA). 2017-Present.
- Director, Global Virus Network, Jamaica Affiliate. Global Virus Network. 2018-Present.

Dr Camille-Ann Thoms-Rodriguez

- Appointed Young Ambassador to the American Society of Microbiologists, 2019-2021.
- Member of the University Hospital of the West Indies Medical Intensive Care Unit (MICU) Taskforce.
- Member of the Oversight Committee for the University Hospital of the West Indies (UHWI) Neonatal Protocols Implementation Programme.
- Secretary of the Caribbean Association of Clinical Microbiologists

Dr. Glendee Reynolds-Campbell

- Infection Prevention and Control Consultant to the PAHO; Jamaica, Bermuda, and the Cayman Islands (2021-present)
- President of the Caribbean Association of Clinical Microbiologists CACM (2019-present)

- Member of the National Laboratory Services Network of Jamaica Planning Committee
- Member of International Society for Human and Animal Mycology (ISHAM) (2019-present)
- Member of International Histoplasmosis Advocacy Group (IHAG) (2019-present)
- Member of the American Society of Microbiologists (2012-present)
- Member of International Congress on Infectious Diseases (2011-present)

Dr. Alison Nicholson

- SARS-CoV-2: As Head of the Department of Microbiology, coordinating COVID-19 testing of patients as well as travelers and persons involved in a range of sporting activities.
- Member, National Health Fund Patient Education and Medication Compliance Programme Committee.
- Member of the Governance Team of the UHWI Taskforce for COVID-19: Established to guide the UHWI's response to COVID-19 since 2020.
- Moderator: Monthly International Antimicrobial Resistance Internet Webinar series (2020) over a 4 month period with a target audience of more than 200 persons from Central America, South America and the Caribbean.
- Caribbean Association of Clinical Microbiologists (Co-Founder, Country Representative)
- Chair, Infection Prevention and Control Committee, UHWI. Since 2015
- Member, West Indian Medical Journal Editorial Board. Since 2019
- Member, Infection Prevention Society (UK)

Dr. Sandra Jackson-Betty

- Member, World Health Organization Global Influenza Program/Global Influenza Surveillance and Response System
- Member, World Health Organization Global Surveillance for Respiratory Syncytial Virus
- Member, International Society for Influenza and other Respiratory Virus Diseases
- Member, Certification Board of Infection Control and Epidemiology
- Member, American Biological Safety Association

AGILITY

INCOME GENERATION

- Abbott Laboratories. "Viral Surveillance and Discovery in Jamaica and the Caribbean Region"; US\$106,337.10.2021 **Anzinger JJ**
- The laboratory services provided by the Department, especially PCR testing in the area of

COVID-19, have significant earning potential that must continue to be tapped. This has become even more important since the need for COVID testing has become more diverse extending from diagnosis to include ruling it out for purposes of travel, work and even admission to hospital, among others PCR Testing

