

DEPARTMENT OF MICROBIOLOGY



Dr. Alison Nicholson, MBBS; DM (Med. Microbiology)
Head of Department

WORK OF THE DEPARTMENT

The 2017/2018 academic year saw the Department of Microbiology building on the work of the last period. Amidst all the challenges we were able to stand firm showing excellent synergy with the needs of our stakeholders. Departmental members continued to produce high-quality publications in 2017 and represented the department through participation in various engagements both nationally and internationally. From these efforts, the department, in collaboration with the Center for Integrated Global Biomedical Sciences, University at Buffalo, will see a substantial increase in its research capacity through the Global Infectious Diseases Research Training Program, supported by a five-year grant. This very timely initiative will likely bring us additional funding to improve the study of Zika, Dengue, HIV, Hepatitis and other viruses, placing Jamaica as the virology research hub in the Caribbean region.

Accreditation

We completed one year as an ISO-accredited medical Laboratory and the first surveillance assessment visit was conducted by the Jamaica National Accreditation Company (JANAAC) during June 2018.

The National Influenza Centre (NIC)

With the support of The University of the West Indies, the Ministry of Health and the Pan American Health Organization, the invaluable services provided by the National Influenza Centre (NIC) in diagnosis and surveillance of Influenza viruses were upgraded and sustained. The NIC participated in a number of external quality assessments, international meetings and training on Influenza during the 2017/2018 academic period.

Antimicrobial Resistance

Dr Alison Nicholson is a member of the Technical Working Group tasked with developing a National Action Plan on Antimicrobial Resistance. She will represent The UWI in partnership with the National Action Plan working group as they observe 'World Antibiotic Awareness Week' in November, 2018.

Mycology: Environmental Investigation of Mould

The Department of Microbiology continues to play a role in addressing the problem of mould contamination not only on the campus but in neighbouring communities. The staff has given lectures to a wide range of interested persons in these communities.

Influenza

Dr Jackson who is currently on leave, continues to be with Global Influenza Programme, GISRS at the World Health Organization based in Geneva, Switzerland – in the areas of human and zoonotic influenza

surveillance globally, diagnostic protocols, and bi-annual influenza vaccine composition selection, with special projects in: influenza surveillance capacity building in 8 UNAIDS AFRO countries and piloting the WHO Global Respiratory Syncytial Virus Surveillance Pilot in 14 countries.

PAPERS PRESENTED

Poster Presentations

- **Anzinger J**, Chistie C, Brown D, Bispo A, Nastouli E, Kozlakidis Z, Thorne C, Ades T, Lundin R, Giaquinto C. “Seroprevalence of Dengue, Chikungunya and Zika Viruses in an Antenatal Population in the Greater Kingston Metropolitan Region of Jamaica”. 2nd International Conference on Zika Virus and Aedes Related Infections. June 2018, Tallinn, Estonia. **Awarded the Best Poster.**
- Butterfield T, Hanna D, Kaplan R, Xue X, Kizer J, Durkin H, Young M, Nowicki M, Tien P, Golub E, Floris-Moore M, Titanji K, Fischl M, Heath S, Palmer C, Landay A, **Anzinger J**. “Increased CD4+ T Cell Metabolism from HIV+ Women with Untreated Diabetes Mellitus”. Cell Symposia: Translational Immunometabolism. June 2018, Basel, Switzerland.
- Harris A, Webster-Kerr K, Wellington I, Grant A, Wiggan J, Robertson M, Williams-Lue S, Elias N, **Anzinger J**, Christie CDC. “Epidemiology of ZIKV-Affected Pregnancy Outcomes in Jamaica. International Symposium on Zika Virus Research”. June 2018, Marseille, France.
- Christie C, Thorne C, **Anzinger J**, Bailey H, Palmer P, Morgan O, Bryan L, Mair S, Peirre R, Onyonyor A, Mitchell P, Melbourne-Chamers R, Webster-Kerr K, Lindo J, Lundin R, Brown D, Bispos A, Nastouli E, Kozlakidis Z, Giaquinto C. “Investigating Vertical Transmission of Chikungunya, Dengue and Zika Virus Infection: a Prospective Observational Cohort Study of Pregnant Women and Infants in Jamaica”. International Symposium on Zika Virus Research. June 2018, Marseille, France.

Oral Presentations

- **Anzinger J.** “ZIKAction Vertical Transmission Study — Laboratory Testing, Jamaica”. ZIKAction Consortium Meeting. November, 2017, Gainesville, Florida, USA. 11 Slides.

PUBLICATIONS

Refereed Journal Articles

- **Anzinger JJ, Butterfield TR,** Gouillou M, McCune JM, Crowe SM, Palmer CS. “Glut1 expression level on inflammatory monocytes is associated with markers of cardiovascular disease risk in HIV-infected individuals”. *J. Acquir. Immune Defic. Syndr.* 2018;77:e28-e30
- Castanon A, Pierre G, Willis R, Harris N, Papalardo E, Romay-Penabad Z, Schleh A, Jajoria P, **Smikle M,** DeCeulaer K. Performance Evaluation and Clinical Associations of Immunoassays That Detect Antibodies to Negatively Charged Phospholipids Other Than Cardiolipin. *American Journal of Clinical Pathology*, 2018 Mar; 149(5):401–411. doi.org/10.1093/ajcp/aqy003
- Lee MF, Auer H, **Lindo JF,** Walochnik J. Multilocus sequence analysis of *Giardia* spp. isolated from patients with diarrhea in Austria. *Parasitol Res.* 2017 Feb;116(2):477–481. doi: 10.1007/s00436-016-5306-9
- Lee MF, Cadogan P, Eytle S, Copeland S, Walochnik J, **Lindo JF.** Molecular epidemiology and multilocus sequence analysis of potentially zoonotic *Giardia* spp. from humans and dogs in Jamaica. *Parasitol Res.* 2017 Jan; 16(1):409–414. Epub 2016 Nov 25. PubMed PMID: 27885466
- Nagassar RP, **Christian N,** Gorton R, Willey BM, Mazzulli T. Time and cost comparison for the identification of Gram negative bacteria isolates using VITEK® 2 Compact, VITEK® 60, VITEK® Mass Spectrometry, or API® 20E/NE. *West Indian Medical Journal.* Epub 2017 Dec 13. [IF 0.332]

- **Nicholson AM**, Tennant IA, Livingston W, **Thoms-Rodriguez C**, Cook L, Johnson S, Thompson T, Barnett J, Richards L. A national survey of the knowledge, attitudes and prescribing practices of doctors regarding antibiotic resistance in a Caribbean country. *Antimicrobial Resistance & Infection Control*. 2018; 7(23): 3-9. doi: 10.1186/s13756-018-0315-3 and 7(77). doi: 10.1186/s13756-018-0358-5
- Rajasuriar R, Hearps AC, Crowe SM, **Anzinger JJ**, Palmer CS. “Suppression of monocyte inflammatory and coagulopathy responses in HIV infection”. *Ann. Transl. Med.* 2018 Jul; 6(13):277
- **Thoms-Rodriguez CA**, Mazzuli T, **Christian N**, Willey BM, **Nicholson AM**. Meropenem efflux in *Pseudomonas aeruginosa* at a tertiary care hospital in Jamaica. *West Indian Medical Journal*. 2018; 67 (2): 105–109. Epub 2016 Mar 1. [IF 0.332]
- **Vickers I**, Harvey K, Nelson K, Brown M, Bullock-DuCasse M, **Lindo J**. Evaluation of OneStep Dengue NS1 RapiDip™ InstaTest and OneStep Dengue Fever IgG/IgM RapiCard™ InstaTest during the course of a dengue type 1 epidemic. *Diagn Microbiol Infect Dis*. 2017 Dec; 89(4):271-275. doi:10.1016/j.diagmicrobio.2017.08.019. Epub 2017 Aug 26. PMID: 29021087
- Willis R, **Heslop O**, Bodonaik N, Thame M, Kumar U, Aung M, Kellier A, Drysdale S, Leon V, **Smikle M**. (2018). “Pneumococcal disease burden, clinical presentations and vaccine coverage in the Jamaican population”. *Human Antibodies*. 26(4);193-199. doi: 10.3233/HAB-180338
- Willis R, **Smikle M**, DeCeulaer K, Romay-Penabad Z, Papalardo E, Jajoria P, Harper B, Murthy V, Petri M, Gonzalez E B. (2017). Clinical associations of proinflammatory cytokines, oxidative biomarkers and vitamin D levels in systemic lupus erythematosus. *Lupus*. 26(14);1517-1527. doi.org/10.1177/0961203317706557

INCOME GENERATION

- **Source:** European Commission

Title: ZIKAction: Preparedness, research and action network on maternal-paediatric axis of ZIKV infection in Latin America and the Caribbean

Grant Period: 2016–2021

Total Amount: €6,912,081.00

Consortium Participant: J Anzinger

- **Source:** Centers for Disease Control

Title: Surveillance and Response to Avian and Pandemic Influenza

Grant Period: 2016–2021

Total Amount: US\$2,000,000.00

Investigator: J Anzinger

- **Source:** Collaboration between The University at Buffalo Center for Integrated Global Biomedical Sciences, University of the West Indies, State University of New York (SUNY) Upstate Medical University and Jamaica Ministry of Health

Title: Establish the Global Infectious Diseases Research Training Program

Grant Period: 2017–2022

Total Amount: USD1.1M (Sub-award USD293,775.00)

Co-Investigator: J Lindo

Mentors: J Anzinger, A Nicholson, I Vickers

PUBLIC SERVICE

Anzinger, J.

- Representative Jamaican Consultant Virologist, Workshop for the Review and Adjustment of the Strategy for the Prevention and control of Arboviral Disease. Pan American Health Organization. Guatemala City, Guatemala; April, 2018.

Anzinger, J.

- Representative Jamaican Consultant Virologist, Annual Meeting of the Arbovirus Diagnosis Laboratory Network (RELDA). Pan American Health Organization. Kingston, Jamaica; July, 2018.

Lindo, J.

- UWI liaison to Ministry of Health on Mosquito Research and Control Unit.
- Co-chair (with Gene Morse) UWI/SUNY Global Health Research Taskforce.
- Member, Rotary Club of New Kingston.
- Chair, Finance Technical Working Group Caribbean Public Health Laboratories Network.
- Director, National Laboratory Services, Ministry of Health, Jamaica.

Nicholson, A.

- WI Representative on National Antimicrobial Resistance Working Group.

STUDENTS

Awards

The first group of Fogarty Fellows recently selected for the University at Buffalo and University of the West Indies collaborative Global Infectious Diseases Research Training Program spearheaded by Professors Gene Morse (UB) and John Lindo (UWI) are:

NIH Fogarty Doctoral Fellowship – Tiffany Butterfield (PhD student)

NIH Fogarty Doctoral Fellowship – Inshand Ali (DM student)

NIH Fogarty Masters Fellowship – Chadwic Mears (MSc student)

NIH Fogarty Doctoral Fellowship – Michelle Brown (PhD awarded)