

# DEPARTMENT OF MICROBIOLOGY

**Professor John F. Lindo, BSc, PhD *UWI* – Head of Department**

## WORK OF THE DEPARTMENT

### Caribbean Medical Mycology Reference Laboratory

The department continued the process of upgrading its facilities and equipment to better respond to the needs of its stakeholders in teaching, clinical microbiology and research. One major thrust over the period under review is work towards the establishment of the Caribbean Medical Mycology Reference Laboratory in response to an increasing need for antifungal susceptibility testing in Jamaica and elsewhere in the Caribbean. The staff



of the mycology laboratory is involved in two training and development collaborations with the University College, London (Professor Tim McHugh) and the Fungus Reference laboratory at the University of Texas Medical Branch in San Antonio (Dr Annette Fothergill). Dr O Heslop and Mrs Trischa-Day Munroe Williams received training at the University of Texas and Ms Rebeca Gorton from UCL (Royal Free campus) visited the laboratory as part of the collaborations. The laboratory is currently completing its Standard Operating Procedures and preparations for College of American Pathologists accreditation which will allow it to participate in new income generating opportunities.

### The National Influenza Centre

The year 2012 commemorates the 60th anniversary of the establishment of the National Influenza Centre (NIC) at the Department of Microbiology, UWI. The NIC continues to be engaged in the diagnosis and surveillance of influenza and other respiratory viruses for Jamaica and contributes to the Weekly Surveillance Bulletin for Jamaica (MOH), the

CAREC Surveillance Reports and to the Weekly Epidemiological Surveillance Regional Pan American Health Organization (PAHO) publications for the Americas.

During 2011-12 the NIC successfully (Score of 100%) participated among 170 laboratories from 134 countries in the WHO External Quality Assessment Program (EQAP) for molecular detection of Pandemic (H1N1), Avian influenza and Seasonal Influenza A and B viruses. Laboratory surveillance for the newly emerged Influenza A (H3N2) variant, presently circulating in the USA has been initiated by the NIC. Dr. S Jackson participated in a PAHO/WHO Regional Conference of the Latin America and Caribbean on the “Implementation of Intensified National Surveillance of Severe Acute Respiratory Infections (SARI)” in Bogotá, Colombia. At this meeting the NIC and the MOH made a joint presentation on the current status of influenza surveillance in Jamaica. Collaborations with the Ministry of Health Surveillance and Disaster Preparedness Response Units and PAHO have continued with the NIC participating in four Enhanced Severe Acute Respiratory Infection workshops throughout Jamaica. [www.paho.org/influenzareports](http://www.paho.org/influenzareports).

## **Dengue Surveillance**

Additional collaboration in disease prevention and control was conducted through provision of diagnostic services for dengue to inform the Ministry of Health, Jamaica of the status of the disease in Jamaica.

## **Control of Healthcare associated Infections**

Following on the success of the 2010/2011 training on the control of healthcare associated infection the department expanded the course in a new offering. This included expanding the training faculty to four experts from the UK led by Jennie Wilson from Imperial College, London. This allowed us to offer introductory and an advanced courses to 136 participants including doctors from most specialties, nurses, pharmacists and medical technologists. Participants came from major hospitals across Jamaica (Ministry of Health), University Hospital of the West Indies, The Cayman Islands, The Bahamas and Trinidad & Tobago. The course was

once again evaluated as being excellent in delivery, content and relevance. The workshop was organised by Drs A Nicholson and K Roye Green.

### **Income generation, grants and awards**

National Health Fund (\$3,334,546.00): Infection Control training workshop. Changing the Structure, Transforming the Culture. **Dr Alison Nicholson.**

**UWI Principal's New Initiative Grant ( \$1,000,000.00).** The detection and identification, at a molecular level, of the mechanisms of antibiotic resistance in multidrug resistant bacteria at the University Hospital of the West Indies. **Dr Alison Nicholson.**

Dr Camille Thoms-Rodriguez (DM Candidate) received the Sanofi Pasteur Travel Grant for Latin American Female Physician from the Intentional Society of Infectious Diseases.

### **Clinical Laboratory Services**

Much progress was made on upgrading the laboratories and the only areas which have not been completed are the Virology and Biosafety Level II Laboratories. The laboratory information systems project has advanced and go live is expected in the second quarter of 2012. The department continues to work towards ISO accreditation under the leadership of Professor Smikle.

### **PAPERS PRESENTED**

- Bodonaik N, **Heslop O**, Nagassar R. The antibiotic susceptibility pattern of Salmonella typhi isolates; 1982-2000. 15<sup>th</sup> International Congress of Infectious Diseases: Bangkok, Thailand, June 13-16, 2012.
- Thoms-Rodriguez **C**, **Nicholson AM**, **Christian NA**, Willey B, Didier H, Mataseje L, McCracken M, Boyd D, Mulvey MR, Mazzulli T. The detection of NDM-1 and other carbapenemase genes in multidrug resistant Gram negative bacteria (MDRGNB)

in a Jamaican hospital. 15th International Congress of Infectious Diseases: Bangkok, Thailand, June 13-16, 2012.

- Reynolds G, **Nicholson AM**. Aminoglycoside resistance in clinical isolates of Gram negative bacteria encountered over a period of 30 years, University Hospital of the West Indies, Jamaica. 15<sup>th</sup> International Congress of Infectious Diseases: Bangkok, Thailand, June 13-16, 2012.
- **Lindo JF**, Brown P, **Vickers IE**, **Brown G**, **Jackson ST**, Lewis-Fuller E. Coinfections of dengue, leptospirosis and malaria in Jamaica. Caribbean Health Research Council, 57<sup>th</sup> Annual Council and Scientific Meetings. *WIMJ*, 2012; 61(Suppl 2).
- **Jackson ST**. Vaccination against Communicable Diseases in all Stages of Life. GlaxoSmithKline. Annual Medical Workshop. Jamaica, May 12 – May 13, 2012
- Jackson ST, Dawkins T. Influenza Surveillance in Jamaica. Implementation of Intensified National Surveillance of Severe Acute Respiratory Infections. PAHO/WHO Bogotá, Colombia. November 15-17, 2011

## PUBLICATIONS

### Book chapter

- \* **Orville Heslop** (2012). Genetic Diversity and the Human Immunodeficiency Virus Type-1: Implications and Impact, Genetic Diversity in Microorganisms, MahmutCaliskan (Ed.), ISBN: 978-953-51-0064-5, InTech, Available from: <http://www.intechopen.com/books/genetic-diversity-in-microorganisms/genetic->

### Referred peer-reviewed articles

- \* Anzinger JJ, Chang J, Xu Q, Barthwal MK, Bohnacker T, Wymann MP, Kruth HS. Murine bone marrow-derived macrophages differentiated with GM-CSF become foam cells

by PI3K-dependent fluid-phase pinocytosis of native LDL. *J Lipid Res.* 2012;53(1):34-42.

- \* **Heslop OD, NyiNyi M, Abbott S,** Rainford LE, CastleDM,Coard KCM. Disseminated trichosporonosis in a burn patient: meningitis and cerebral abscess due to *Trichosporonasabii*. *J Clin Microbiol.* December 2011; 49 (12): 4405-8.
- \* **Roye-Green, K.,** Frederick, J., Wharfe, G., Choo-Kang, E., DaCosta, V., Fletcher, H., & **Smikle, M.** (2011). Anti-phospholipid and other autoantibodies in a cohort of habitual aborters and healthy multiparous women in Jamaica. *Human antibodies*, 20(1), 1-5.

### **Non peer-reviewed abstracts**

- \* **Nicholson AM.** Advances in the diagnosis and management of Respiratory Tract Infections. Medical Association of the Bahamas Conference, Nassau, March 2012.
- \* Nicholson AM. Antibiotic Resistance at the UHWI, Jamaica. REBACCC (Bacterial Resistance in Central America and the Caribbean). El Salvador, August 2011.
- \* **Nicholson AM.** Current Trends of Bacterial Resistance in Respiratory Tract Infections in Jamaica. Paediatric Association of Jamaica, April 2012.

## **PUBLIC SERVICE**

### **Professor Monica Smikle**

- Member, American Society of Microbiologists
- Member, Lions Club of Mona

### **Dr Karen Roye Green**

- Member, American Society of Microbiologists
- Member, Caribbean Association of Clinical Microbiologists.

**Dr Alison Nicholson**

- Member, American Society of Microbiologists
- Member, Caribbean Association of Clinical Microbiologist
- Member, International Society of Infectious Diseases

**Dr. S Jackson**

- Member, American Medical Writers Association
- Member, Association of Consultant Physicians of Jamaica
- Member, Pan American Society of Clinical Virology
- Member, WHO Global Influenza Surveillance Network,
- Director, National Influenza Centre, Jamaica

**Ms Nicole Christian**

- Member, American Society of Microbiologists.

**Dr Michelle Brown**

- Member, American Society of Microbiologists

**Dr Orville Heslop**

- Member, American Society of Microbiologists

**Dr John Lindo**

- Membership Chair, Rotary Club of New Kingston
- Member, American Society of Tropical Medicine and Hygiene
- Member, Inter-American Development Bank Civil Society Consulting Group (ConSOC)