

Medical Microbiology Post-graduate Diploma: 2023

Overview

This course provides a comprehensive survey of diagnostic microbiology theory and practice. Relevant research from LMIC settings is highlighted. The faculty include LMIC-experienced microbiologists (medical and scientific), infectious diseases physicians and medical research and laboratory scientists.

Target audience

- Postgraduate medical registrars/residents from LMIC settings
- LMIC pathologists or physicians who wish to update their diagnostic microbiology and infectious diseases knowledge
- Other interested health care professionals

Course pre-requisites

Health care professional able to put aside approximately 4 hrs per week for course activities and review of materials.

Course outline and duration

In 2023, there will be 27 weekly modules running across 2 semesters from March (Appendix) with the main lecture occurring on Wednesdays at 12:00 hour, Australian Eastern Standard Time (AEST). The first semester focuses on foundation level content and semester 2 addresses more advanced topics. An online teaching site is used to provide access to recorded presentations and supplementary materials (written and video). Course texts are recommended at the outset with background reading suggested for each module.

Students are expected to participate in the PRIDA journal club (fortnightly, Fridays 12:00 hour AEST) and prepare and present at least one journal article review during 2023. The journal club can also be accessed independently by email to Dr Knippenberg ben.knippenberg@gmail.com. On alternate Fridays, students will be expected to take turns presenting a recent case for discussion.

Course Faculty

- **Assoc. Professor John Ferguson, Microbiologist & Infectious Diseases Physician, John Hunter Hospital, NSW, Australia (Course Coordinator)**
- **Dr Ben Knippenberg, Microbiologist & Infectious Diseases Physician, SE Sydney Local Health District, NSW, Australia (Course Coordinator)**
- Dr Khin Chaw, Microbiologist & Infectious Diseases Physician, Brisbane, QLD, Australia
- Dr Chris Ashhurst-Smith, Senior microbiology scientist, Pathology North, NSW, Australia
- Ms Fiona Oehme, Senior microbiology scientist, Pathology North, NSW, Australia
- Dr Rob Norton, Director of Microbiology and Pathology, Townsville University Hospital, QLD, Australia
- Dr David Siebert, Medical Virologist (Pathologist), Infectious Diseases Physician, Princess Alexandra Hospital, QLD, Australia
- Dr Indy Sandaradura, Microbiologist & Infectious Diseases Physician, ICPMR, Westmead Hospital, NSW Australia
- Dr Bianca Graves, Microbiologist, Pathology Queensland, QLD, Australia
- Dr Sarah Cherian, Microbiologist and Pathologist-in-Charge of Sullivan Nicolaidis Pathology
- Dr Claire Heney, Microbiologist, Pathology Queensland, Brisbane, Australia
- Mr Joe Hessel, Pharmacist, Western Pacific - World Health Organisation

- Dr Kate McCarthy, Microbiologist – Pathology Queensland, Infectious diseases Physician, Royal Brisbane Womens Hospital, QLD
- Dr Nikki Townell, Microbiologist & Infectious Diseases Physician, Sunshine Coast University Hospital, QLD, Australia
- Dr Belinda Bin Lin, Microbiologist & Infectious Diseases Physician, Royal Melbourne Hospital and University of Melbourne
- Dr Anthony Elias, Microbiologist & Infectious Diseases Physician, Gosford Hospital, NSW, Australia
- Dr Ian Marr, Microbiologist & Infectious Diseases Physician, Canberra, ACT, Australia and Menzies Institute for East Timor
- Dr Siobhan Hurley, Microbiology and Infectious Diseases Registrar, Prince of Wales Hospital, Sydney, Australia
- Dr Andrew Vallely, Epidemiologist and research scientist, Kirby Institute, NSW, Australia
- Dr Chris Coulter, Microbiologist & Infectious Diseases Physician, Brisbane, QLD, Australia, Director, Queensland Mycobacterium Reference Laboratory, Pathology Queensland Central Laboratory

Course assessments and outcome

Attendance at weekly teleconferenced tutorials/lectures and the revision week sessions is expected but not compulsory- recorded tutorials are made available for later review. Each student is expected to complete pre and post module short MCQ tests.

Assessments occur at the end of each semester. Satisfactory completion (mark of at least 50%) is required. An unsatisfactory paper will lead to a request to complete a supplementary assessment.

Student participation in the PRIDA Journal club is expected, including presentation of at least one paper (a journal club mentor is made available to assist). Presentation of at least one case-based discussion is also expected.

Course endorsements

The Fiji National University requires successful completion of this course as a pre-requisite to entry into the Pathology Masters program. The University of PNG currently recommends course completion as part of their post part 1 Master of Medicine (Pathology) program. The RCPA also acknowledges that it supports the course.

The 2023 course is to be accredited by CIFAL, Newcastle the United Nations Institute for Training and Research (UNITAR) affiliated training centre based at the University of Newcastle, Australia. Successful students will receive separate CIFAL certificates for each semester successfully completed. In view of the cost of CIFAL certification, a modest charge for the course is levied. Note that the course faculty provide their services *de bono*.

Enrolment process

Enrolment is arranged by emailing the course coordinator – **please email john.ferguson@health.nsw.gov.au before 31st January 2023**. Students can elect to enrol for either or both semesters in a calendar year. We will then contact the prospective student and arrange an enrolment interview to learn more about the student's particular situation and needs prior to formal enrolment at which time a payment of AUD \$50 for each semester enrolled is payable.

Arrangements will be made by the course faculty for each student to become an [affiliate member of the RCPA](#) in order to access RCPA online educational materials such as the laboratory safety and ethics courses.

Students from each country/location are assigned a specific academic mentor for the course duration.

Appendix: Provisional Course Timetable, 2023

Week commencing	Semester week	Module topics	Presenter(s)
6/03/2023	1	Introduction to course, mentor and faculty introductions (Monday)	John Ferguson, Ben Knippenberg Trine Gulholm
Wednesday	1	Classification of microbes, pathogenesis, host defences, immunocompromised states	Khin Chaw
13/03/2023	2	Microscopy procedures, pre-analytical issues, diagnostic stewardship	Rob Norton
20/03/2023	3	Basic culture media and biochemical tests	Sarah Cherian Chris Ashhurst-Smith
27/03/2023	4	Gram positive and negative bacterial identification	Khin Chaw Fiona Oehme
3/04/2023	5	Molecular microbiology techniques	David Siebert
10/04/2023	6	Laboratory quality management, principles of internal quality control and external QA	John Ferguson
17/04/2023	7	AST, breakpoints, internal quality control, key bacterial resistance phenotypes, multi-resistant organisms	Rob Norton
24/04/2023	8	Bloodstream bacterial infection and BSI surveillance/liaison, cardiovasc infections	Trine Gulholm
1/05/2023	9	Antibiotics, PK/PD, antibiotic classes	Indy Sandaradura
8/05/2023	10	Skin & soft tissue	Kate McCarthey
15/05/2023	11	Respiratory tract infection	Belinda Bin Lin
22/05/2023	12	GI tract infection including rotavirus	Tony Elias
29/05/2023	13	Urinary tract infections	Bianca Graves
5/06/2023	14	Laboratory safety & Infection prevention & control	John Ferguson
12/06/2023		End of semester revision session End of semester assessment Issue of semester 1 CIFAL certificates	Ben Knippenberg
26/06/2023	1	Antimicrobial stewardship	John Ferguson Joe Hessel
3/07/2023	2	Tuberculosis diagnosis Tuberculosis infection control	Chris Coulter John Ferguson
10/07/2023	3	CNS infections including cryptococcal infection	Ian Marr
17/07/2023	4	Bone & joint - including diabetic foot infection	Nikki Townell
24/07/2023	5	Intra-abdominal infection including anaerobes	John Ferguson
31/07/2023	6	STI-1 Bacterial infections	Siobhan Hurley
7/08/2023	7	STI 2- HIV, HSV, HPV and point of care testing	Andrew Valey
14/08/2023	8	Serological testing and antibody/antigen RDTs, Dengue, polio, measles, rubella as examples	Tony Elias
21/08/2023	9	Advanced / emerging approaches to diagnostics	Ian Marr
28/08/2023	10	Hepatitis viruses - A,B,C,D,E and blood bank (WHO) practice for blood borne virus testing	Sarah Cherian
4/09/2023	11	Malaria	Ben Knippenberg
11/09/2023	12	Diagnosis of other parasitic infections (protozoans and helminths)	Harsha Shorey
18/09/2023	13	Fungal infections	David Siebert
25/09/2023		End of semester revision session End of semester assessment	John Ferguson
30/10/2023		Announcement of successful students Issue of course certificates (CIFAL Semester 2 and PRIDA) Graduation (virtual)	