Overview

This one-day workshop empowers teachers to conduct hands-on microbiology and immunity activities in their classrooms. It is targeted at Year 11 and 12 biology teachers and Years 7 to 10 science teachers, and will take place at our world-class medical research facility in Herston, Brisbane.

Join fellow science-teaching professionals, meet research scientists, and get experience in laboratory techniques you can use in the classroom. Along the way, you will road-test relevant literacy tools, critique the benefits of different laboratory activities, prepare a profile on a medical researcher, and tour our research facilities.

Expected Outcomes

During this workshop, teachers will:

- Conduct benchtop experiments in microbiology:
  - Learn how to prepare media that can be used for classroom activities in microbiology (LB broth, LB Agar)
  - Compare two techniques for conducting bioassays with bacteria and fungi (zone of inhibition, fluorescein diacetate assay)
- Critique the practicality of conducting microbiology activities in school laboratories, and troubleshoot potential problems
- Meet and interview a medical researcher to complement in-class learning of the Science as a Human Endeavour strand of the Australian Curriculum Science
- Road-test literacy activities to support in-class learning in cell biology, infectious diseases and beyond
- Receive relevant information from suppliers of equipment and consumables, facilitating your ability to translate your learning into hands-on activities in your classroom.

Relevance to professional practice

AITSL Professional Standards for Teachers

- AITSL Standard 2: Know the content and how to teach it
- AITSL Standard 3: Plan for and implement effective teaching and learning
- AITSL Standard 6: Engage in professional learning
- AITSL Standard 7: Engage professionally with colleagues, parent/carers and the community.
### Australian Curriculum Science
- Science Understanding: Year 8 (cell biology)
- Science as a Human Endeavour: Year 8 (occupations, ethics), Year 10 (technological advances, publishing and review)
- Science Inquiry Skills: All years.

### Queensland Senior Syllabus for Biology (2019)
- Unit 1: Cells and multicellular organisms (both topics)
- Unit 2: Maintaining the internal environment (Topic 2: Infectious disease).

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<tr>
<th>TIME</th>
<th>DETAILS</th>
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<tbody>
<tr>
<td>8:30 am</td>
<td>Arrive and sign in</td>
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<tr>
<td>8:40 am</td>
<td>Introduction to the Lab and safety talk</td>
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| 9:00 am | Antimicrobial and disease workshop:  
  - Pipetting  
  - Making media for growing microbes  
  - Ways to test antimicrobial activity |
| 10:30 am | Morning tea (provided) with QIMR Berghofer science ambassadors |
| 11:00 am | Tour of QIMR Berghofer research facilities |
| 11:45 am | Antimicrobial and disease workshop (cont.):  
  - Bioassay  
  - Lawn plates for zone of inhibition  
  - Results |
| 1:00 pm | Lunch (provided)  
Peruse equipment and consumables relevant to Biology units of the Australian Curriculum Science, and to Units 1, 2 and 4 of the Queensland Biology Senior Syllabus |
| 1:30 pm | Infectious disease workshop (cont.)  
- Mock ELISA for diagnosing Ross River Virus |
| 2:00 pm | Meet the scientist  
- a presentation and discussion with QIMR Berghofer immunologist, Dr Jacqueline Burrows |
| 2:30 pm | Laboratory tour |
| 2:50 pm | Feedback and evaluation - Farewell |

Register online at www.qimrberghofer.edu.au/students/school-students/teachers/  
Or contact the QIMR Berghofer school education coordinators –  
schools@qimrberghofer.edu.au  
Dr Liam St Pierre (07) 3362 0307,  
Dr Rowena Long (07) 3362 0453