<table>
<thead>
<tr>
<th>NAME</th>
<th>OFFICE</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theme leader</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor Patrick Sexton</td>
<td>4.339</td>
<td><a href="mailto:patrick.sexton@monash.edu">patrick.sexton@monash.edu</a></td>
</tr>
<tr>
<td><strong>Senior leadership</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor Arthur Christopoulos</td>
<td>4.337</td>
<td><a href="mailto:arthur.christopoulos@monash.edu">arthur.christopoulos@monash.edu</a></td>
</tr>
<tr>
<td>Professor Roger Summers</td>
<td>4.335</td>
<td><a href="mailto:roger.summers@monash.edu">roger.summers@monash.edu</a></td>
</tr>
<tr>
<td><strong>Teaching and research fellows</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Betty Exintaris</td>
<td>3.315</td>
<td><a href="mailto:betty.exintaris@monash.edu">betty.exintaris@monash.edu</a></td>
</tr>
<tr>
<td>Dr John Haynes</td>
<td>4.510</td>
<td><a href="mailto:john.haynes@monash.edu">john.haynes@monash.edu</a></td>
</tr>
<tr>
<td>Associate Professor Helen Irving</td>
<td>4.511</td>
<td><a href="mailto:helen.irving@monash.edu">helen.irving@monash.edu</a></td>
</tr>
<tr>
<td>Dr Erica Sloan</td>
<td>4.508</td>
<td><a href="mailto:erica.sloan@monash.edu">erica.sloan@monash.edu</a></td>
</tr>
<tr>
<td>Dr Sab Ventura</td>
<td>3.316</td>
<td><a href="mailto:sab.ventura@monash.edu">sab.ventura@monash.edu</a></td>
</tr>
<tr>
<td>Associate Professor Paul White</td>
<td>4.509</td>
<td><a href="mailto:paul.white@monash.edu">paul.white@monash.edu</a></td>
</tr>
<tr>
<td><strong>Research only fellows</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Meri Canals</td>
<td>4.324</td>
<td><a href="mailto:meri.canals@monash.edu">meri.canals@monash.edu</a></td>
</tr>
<tr>
<td>Dr Laura Edgington-Mitchell</td>
<td>4.344</td>
<td><a href="mailto:laura.edgington-mitchell@monash.edu">laura.edgington-mitchell@monash.edu</a></td>
</tr>
<tr>
<td>Dr Karen Gregory</td>
<td>4.343</td>
<td><a href="mailto:karen.gregory@monash.edu">karen.gregory@monash.edu</a></td>
</tr>
<tr>
<td>Dr Michelle Halls</td>
<td>4.324</td>
<td><a href="mailto:michelle.halls@monash.edu">michelle.halls@monash.edu</a></td>
</tr>
<tr>
<td>Dr Dana Hutchinson</td>
<td>4.343</td>
<td><a href="mailto:dana.hutchinson@monash.edu">dana.hutchinson@monash.edu</a></td>
</tr>
<tr>
<td>Dr Rob Lane</td>
<td>4.325</td>
<td><a href="mailto:rob.lane@monash.edu">rob.lane@monash.edu</a></td>
</tr>
<tr>
<td>Dr Chris Langmead</td>
<td>4.507</td>
<td><a href="mailto:chris.langmead@monash.edu">chris.langmead@monash.edu</a></td>
</tr>
<tr>
<td>Dr Katie Leach</td>
<td>4.343</td>
<td><a href="mailto:katie.leach@monash.edu">katie.leach@monash.edu</a></td>
</tr>
<tr>
<td>Dr Lauren May</td>
<td>4.325</td>
<td><a href="mailto:lauren.may@monash.edu">lauren.may@monash.edu</a></td>
</tr>
<tr>
<td>Dr Daniel Poole</td>
<td>4.344</td>
<td><a href="mailto:daniel.poole@monash.edu">daniel.poole@monash.edu</a></td>
</tr>
<tr>
<td>Dr Celine Valant</td>
<td>4.327</td>
<td><a href="mailto:celine.valant@monash.edu">celine.valant@monash.edu</a></td>
</tr>
<tr>
<td>Dr Nicholas Veldhuis</td>
<td>4.345</td>
<td><a href="mailto:nicholas.veldhuis@monash.edu">nicholas.veldhuis@monash.edu</a></td>
</tr>
<tr>
<td>Dr Denise Wootten</td>
<td>4.327</td>
<td><a href="mailto:denise.wootten@monash.edu">denise.wootten@monash.edu</a></td>
</tr>
</tbody>
</table>
INTRODUCTION

Congratulations on choosing to undertake your HDR studies in one of the preeminent biomedical sciences departments in the world! Research within Drug Discovery Biology (DDB) adopts multidisciplinary approaches to understand drug targets in biomedicine and disease and how such knowledge informs drug discovery. The DDB theme offers a wide range of opportunities for translational research in the following broad disease areas:

- neuropsychiatric disease
- inflammation
- metabolic and endocrine disorders
- cardiovascular disease
- cancer

Led by internationally acclaimed scientists, Monash Institute of Pharmaceutical Sciences’ Drug Discovery Biology theme encompasses five major multi-disciplinary and complementary research areas:

- structural biology
- chemical biology
- cellular biology
- systems pharmacology
- integrated biology

The combined aims of the theme are to:

- make fundamental new discoveries about receptor structure, activation, signaling and regulation
- deepen our understanding of the contribution of these receptors to critical physiological processes and disease mechanisms.

Structure of theme

Theme leader: Professor Patrick Sexton

DDB Management Committee

Composed of theme lab heads, independent research fellows, the student representative, and administrative and technical support staff, the management committee meets on a monthly basis to review policy and practice across the entire theme. Decisions made by the DDB Management Committee are communicated to staff and students via email or at individual lab meetings.

Student representative

Year 2-4 PhD student elected by peers to represent the interests of all DDB research students (Honours, Masters and PhD) at the DDB Management Committee and HDR Executive Committee (see below). The student representative also heads the organising committee for the annual student-run DDB research symposium.
**Administrative and technical support**
A number of support staff are employed by the theme or senior leadership, to ensure smooth and cohesive functioning of laboratories within DDB.

Assistant to senior leadership  
Daisy Albanese  
daisy.albanese@monash.edu

Administrative support and HR  
Nicki Penny  
nicki.penny@monash.edu

Occupational health and safety  
Adrian Whear and Paul Dover  
adrian.whear@monash.edu  
paul.dover@monash.edu

Lab managers  
George Christopoulos (level 3)  
george.christopoulos@monash.edu  
Adrian Whear (level 4)  
adrian.whear@monash.edu

Purchasing and ordering  
Adrian Whear and Jayn Lindholm,  
pharm-mcdaorders@monash.edu

**HDR Executive Committee**

<table>
<thead>
<tr>
<th>NAME</th>
<th>ROLE</th>
<th>RESPONSIBILITIES</th>
</tr>
</thead>
</table>
| Dr Karen Gregory           | Chair                         | • Oversees all aspects of the PhD program  
                              |                                                               | • Interviews PhD candidates  
                              |                                                               | • Assigns academic mentors  
                              |                                                               | • Approves supervision/panel members  
                              |                                                               | • Monitors student progress  
                              |                                                               | • Coordinates student recruitment and outreach  
| Professor Roger Summers     |                               |                                                                                 |
| Dr Lauren May              |                               |                                                                                 |
| Dr Denise Wootten          |                               |                                                                                 |
| Dr Laura Edgington-Mitchell|                               |                                                                                 |
| Year 2-4 PhD student       | Student representative        | • Develops policy and procedures  
                              | (elected for 1 year)                                                       | • Updates students on policy changes  
                              |                                                               | • Attends annual town-hall student meetings  
                              |                                                               | • Coordinates training  
                              |                                                               | • Aids conflict resolution  

Faculty research office

Support for research students and staff is provided by members of the faculty research office. The faculty research office manages all matters relating to candidature, enrolment, scholarship payments, and faculty-wide coursework components for the Advanced Course in Drug Discovery and Development.

Research programs manager  Dr Karen McConalogue  karen.mcconalogue@monash.edu

Faculty research coordinator  Dr Asuntha Karunaratne  asuntha.karunaratne@monash.edu

Postgraduate research programs administrator  Karen Drakatos  karen.drakatos@monash.edu

Research Project Manager (including animal ethics)  Vanalysa Ly  vanalysa.ly@monash.edu

The faculty intranet (http://intranet.monash.edu.au/pharm/students/research/) also has all the information you need for your candidature, including milestones and paperwork, PhD training resources, and facilities and support services.

DDB PhD PROGRAM ROTATIONAL MODEL AND JOINT PhD’s

Completion of the DDB PhD program is dependent upon a candidate meeting requirements set at several levels: those set by the University (overseen by Monash Graduate Education (MGE)), those set by the faculty, those set by DDB and those set by the thesis supervisor. The requirements set by the University are available at: monash.edu/graduate-research/faqs-and-resources/content. The faculty and theme-specific policies and requirements are outlined below.

Assignment of an academic mentor

The HDR Executive Committee will assign each new student an academic mentor for the first year of the PhD program. A student who wishes to change his/her academic mentor should contact the HDR Executive Committee.

The academic mentor will:

- act in the best interests of the student
- assist and advise on rotations and thesis supervisor selection
- be a source of information concerning school, departmental and university policies and procedures
- help students with problems they may encounter
- become chair of the milestone review panel.
Peer mentoring

All first year students will be assigned a peer mentor who has passed confirmation. Peer mentors are selected from a laboratory that is independent of the academic mentor. The role of the peer mentor is:

- facilitate integration into the theme community (socially and scientifically)
- be a source of information concerning school, departmental and university policies and procedures
- help students with problems they may encounter.

Selection of a thesis supervisor

Thesis supervisors are selected after completion of laboratory rotations, and prior to their initial panel meeting. After discussion with the prospective supervisor, the student must submit a completed PhD supervisor selection form, signed by the prospective supervisor, for approval by the DDB HDR Executive Committee. Monash requires all PhD students to have a primary supervisor and at least one additional associate supervisor. Primary thesis supervisors must be accredited by MGE at level 1 or higher, with a minimum of 1 year supervisory experience.

Every effort will be made to accommodate a student's request to work with a specific DDB lab head for their thesis research. However, the department cannot guarantee that a student will be able to work in the laboratory that they select as a first choice. In the event that a student's first choice cannot be met, an alternative will be arranged in consultation with the student and prospective supervisor.

Induction

During the first three weeks of the DDB doctoral program, all students will undertake an induction. This induction is designed to allow students to complete all required safety, general and specific laboratory inductions, to optimise their laboratory work during rotations.

There will be an opportunity to learn about the breadth of research being pursued within DDB to inform selection of rotations. Doctoral students will have the opportunity to interview with six DDB lab heads to discuss specifics of rotation projects as well as future thesis topics with faculty members.
Within their induction, students will participate in two different levels of training: coursework toward unit 1 and practical laboratory-based core training.

**Core laboratory training** will encompass standard operating procedures (SOPs) for instrumentation, techniques and processes that are key elements of work within all laboratories within the theme.

**Coursework** requirements for unit 1 are split (~50%) between the two different induction periods each year. All unit 1 modules must be satisfactorily completed to meet probationary candidature requirements.

### Rotations

Students rotate through three distinct laboratories to
- broaden their knowledge of laboratory techniques and skills,
- provide exposure to diverse research areas,
- inform selection of final laboratory and thesis supervisor,
- provide an opportunity for interaction with different faculty members, and
- provide an understanding of the requirements to undertake a research project.

Please note that some rotations can only be undertaken as a second or third rotation due to project requirements (i.e. projects involving stem cells or animal work).

Rotation projects will be completed within six weeks. At the conclusion of each rotation, an assessment task (see table below) will be due on the following Friday. The rotation supervisor will submit a written evaluation of the student's performance (graded pass or fail) to the DDB HDR Executive Committee.
DDB PhD students must conduct their thesis research within a DDB laboratory, but can be jointly supervised by members of other themes to facilitate interdisciplinary science. Rotations may include time (up to 40%) within laboratories outside of DDB, but primary rotation supervisors must be DDB faculty members. Students are expected to conduct full-time research during each rotation. Students and rotation supervisors are encouraged to discuss mutual expectations prior to beginning rotations. For queries regarding time commitments, please seek the advice of a DDB HDR Executive Committee member.

Rotation project assessments

Following completion of each rotation, students will present their research via (i) an oral presentation; (ii) a poster; and (iii) a written report as specified in Table 1.

- Oral presentations will be 10 min with 5 min for audience questions.
- Posters should be sized to standard powerpoint slide (4:3) and will be projected.
- Written Report - 6 pages (1.5 spacing)
  - Introduction - Background and rationale of the work and outline of the working hypothesis. 1-2 pages.
  - Experimental Design/Methods - Methods should be described using Br. J. Pharmacol format. 1 page.
  - Results/Discussion - Results should be presented in an organised, meaningful and comprehensible manner. They should be compared with reports from the literature (if any) and be analyzed in the context of the working hypothesis. 2-3 pages
  - Summary/Conclusion - Summarise the results and give an indication of future research directions. ½ page
  - References (Br. J. Pharmacol format), figures, and tables are not included in the page count.

Evaluations (rubrics available from the HDR Executive Committee and/or on the departmental web/moodle site) will be completed by one senior PhD student and at least one faculty member. Constructive feedback will be returned to the student.
Outline of first year of the DDB PhD Program

A) Mar start

<table>
<thead>
<tr>
<th>UNIT 1</th>
<th>UNIT 2 &amp; 3</th>
<th>UNIT 4 &amp; 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAB #1</td>
<td>LAB #2</td>
<td>LAB #3</td>
</tr>
</tbody>
</table>

| Literature review & research proposal |

B) Sept start

<table>
<thead>
<tr>
<th>UNIT 2 &amp; 3</th>
<th>UNIT 4 &amp; 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAB #3 + 1</td>
<td>LAB #1</td>
</tr>
</tbody>
</table>

| Literature review & research proposal |

Figure 1: With two intakes each year (A and B), coursework elements are delivered in two major blocks independent of laboratory rotations. The exception being rotation 3 where up to five hours of coursework is completed concurrently.

Table 1: Key dates for year one

<table>
<thead>
<tr>
<th>INTAKE A</th>
<th>WEEK STARTING</th>
<th>ASSESSMENT DUE</th>
<th>REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Induction and unit 1</td>
<td>19 March 2018</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Rotation 1</td>
<td>9 April 2018</td>
<td>26 May 2018</td>
<td>10 min oral</td>
</tr>
<tr>
<td>Units 2 and 3</td>
<td>28 May 2018</td>
<td>7 July 2018</td>
<td>100% attendance, achieve learning objectives</td>
</tr>
<tr>
<td>Rotation 2</td>
<td>9 July 2018</td>
<td>25 August 2018</td>
<td>poster</td>
</tr>
<tr>
<td>Rotation 3 and unit 1</td>
<td>27 August 2018</td>
<td>20 October 2018</td>
<td>Report (6 pages)</td>
</tr>
<tr>
<td>Units 4 and 5</td>
<td>8 October 2018</td>
<td>3 November 2018</td>
<td>100% attendance, achieve learning objectives</td>
</tr>
<tr>
<td>Mentor meeting</td>
<td>15 October 2018</td>
<td>n/a</td>
<td>Select thesis project and supervisor</td>
</tr>
<tr>
<td>Initial panel meeting</td>
<td>19 November 2018</td>
<td>7 days prior</td>
<td>Oral and report</td>
</tr>
<tr>
<td>Confirmation</td>
<td>11 March 2019</td>
<td>7 days prior</td>
<td>Oral, report, Thesis Introduction</td>
</tr>
<tr>
<td>INTAKE B</td>
<td>WEEK STARTING</td>
<td>ASSESSMENT DUE</td>
<td>REQUIREMENTS</td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------------------</td>
<td>------------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>Induction and unit 1</td>
<td>17 September 2018</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Units 4 and 5</td>
<td>8 October 2018</td>
<td>3 November 2018</td>
<td>100% attendance, achieve learning objectives</td>
</tr>
<tr>
<td>Rotation 1</td>
<td>5 November 2018</td>
<td>12 January 2019</td>
<td>10 min oral</td>
</tr>
<tr>
<td>Rotation 2</td>
<td>14 January 2019</td>
<td>2 March 2019</td>
<td>poster</td>
</tr>
<tr>
<td>Rotation 3 and unit 1</td>
<td>4 March 2019</td>
<td>27 April 2019</td>
<td>Report (6 page)</td>
</tr>
<tr>
<td>Mentor meeting</td>
<td>15 April 2019</td>
<td>n/a</td>
<td>Select project and supervisor</td>
</tr>
<tr>
<td>Mentor meeting</td>
<td>20 May 2019</td>
<td>7 days prior</td>
<td>Oral and report</td>
</tr>
<tr>
<td>Units 2 and 3</td>
<td>27 May 2019</td>
<td>6 July 2019</td>
<td>100% attendance, achieve learning objectives</td>
</tr>
<tr>
<td>Confirmation</td>
<td>9 September 2019</td>
<td>7 days prior</td>
<td>Oral, report, Thesis Introduction</td>
</tr>
</tbody>
</table>
**ADVANCED COURSE IN DRUG DISCOVERY AND DEVELOPMENT**

We recognise that DDB PhD graduates need skills and expertise beyond laboratory science alone. We have developed an advanced course to train our PhD graduates to think innovatively, to be effective communicators and to work in partnership with government, industry, philanthropy and business.

The Advanced Course in Drug Discovery and Development covers the entire spectrum of the drug discovery and development process from target identification through to clinical evaluation and engagement with industry. The course consists of five units comprising blended active learning modules delivered by a mix of external experts, senior faculty members and early career researchers. Delivered during year one of the program, the advanced course consists of >120 contact hours, with the expectation that a minimum of two additional hours of independent study will be required to gain the most out of each contact hour.

**Table 2: Overview of the Advanced Course in Drug Discovery and Development**

<table>
<thead>
<tr>
<th>UNIT</th>
<th>UNIT COORDINATOR</th>
<th>CONTACT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1: Research methods and scientific integrity</td>
<td>Dr Denise Wootten - DDB</td>
<td>21</td>
</tr>
<tr>
<td>Unit 2: Scientific communication and leadership</td>
<td>Faculty Research Office</td>
<td>44</td>
</tr>
<tr>
<td>Unit 3: The process of drug discovery</td>
<td>Dr Lauren May - DDB</td>
<td>22</td>
</tr>
</tbody>
</table>

Unit 1 is designed to introduce candidates to general data acquisition and analysis methods relevant to drug discovery. The unit focuses on best practice to ensure scientific rigor, including both practical and theoretical elements. Workshop topics include research ethics, statistics, data interpretation and presentation. Key considerations regarding protection of intellectual property and sharing IP with putative drug development partners are also introduced.

Unit 2 will facilitate attainment of skills that aid scientific writing, project planning and management, negotiation, networking, presentation and communication of results. Online modules are linked to interactive workshops to facilitate career planning and development.

Drug discovery scientists in academia and industry must appreciate how different facets of discovery science are integrated into the discovery pipeline. Unit 3 will provide an in-depth understanding of the different stages of the drug discovery
process, including target validation, drug screening methods, computational modelling, drug design and physicochemical optimisation, preclinical development, clinical development, and pharmacoepidemiology.

### Unit 4: Consulting Case for drug discovery

| A/Prof. Phil Thompson - Medicinal Chemistry | 19 |

Candidates will undertake a group project to develop a strategy to validate a novel drug target for the treatment of a specified disease. Candidates will conduct a competitive intelligence analysis to identify market gaps, look for potential research partners, assess comparable deals, discover targets with active patenting activity, assess research competitor pipelines, and review a strategic portfolio.

### Unit 5: Applied drug discovery biology

| Dr Sebastian Furness - DDB | 19 |

Unit 5 provides candidates with master classes in the latest approaches to understanding the biology of drug targets. Taught by experts in the field, concepts covered include: advanced receptor theory, methods to analyse drug activity data, cutting-edge approaches in molecular biology, and visualisation of molecular interactions.
MILESTONE REVIEW PANELS

The Milestone Review Panel (MRP) is also referred to as a thesis committee or a PhD panel. Guided by their academic mentors and supervisors, students will select a MRP after choosing a primary thesis supervisor and devising a project proposal. Supervisors participate in MRPs but do not have a direct decision-making role in determining milestone outcomes. The MRP will consist of:

- an independent Chair (usually the assigned academic mentor)
- at least two appropriately qualified (PhD) academics, drawn from the student’s theme/faculty or from another faculty within the University. One of the staff must be conversant with the general research area.
- other person/s nominated by the Chair, including panel member/s external to the university with relevant expertise.
- no panel member, including the Chair, should be (or have been) directly involved with the student’s research project (i.e. a current or former supervisors).

When composing a panel consideration should be given to diversity in membership with respect to career stage, expertise, background and gender. Panel composition must be approved by the DDB HDR executive committee, who will consider appropriateness, independence and diversity.

Milestone review panels are a resource for the candidate and will:

- Ensure expectations for candidate performance and mentoring are clearly defined in the initial meeting.
- Meet with the trainee at regular intervals (minimum requirement is yearly).
- Advise and guide trainees regarding satisfactory research progress.
- Advise and guide trainees about any difficulties they encounter in their research.
- Evaluate the candidate and provide documented feedback to the candidate about their progress.

Candidates are expected to:

- Schedule all meetings with the Milestone Review Panel
- Submit all documents to the Milestone Review Panel seven days prior to the meeting (minimum)
- Ensure completion of all forms
- Advertise oral presentations (send calendar invites) to the entire theme seven days prior to the meeting (minimum)
- Submit completed forms to MGE, the faculty research office or DDB HDR Executive Committee as appropriate.
## Mandatory milestone review panels

### INITIAL PANEL MEETING – 9 MONTHS

| Oral presentation | A 10-15 min presentation that outlines the thesis project proposal followed by extended questioning from the panel. Presentations must include project background and rationale, hypotheses and aims, methods. Candidates should consider project logistics (e.g. ethics approvals, IP, timelines), anticipated outcomes, and alternative strategies. |
| Literature review outline | This document should include an outline of the literature review (bulleted list of major and minor subheadings), identify the scope of the thesis, statement of aims and hypotheses. |

### CONFIRMATION OF CANDIDATURE – 12 MONTHS

| Coursework | Students must have satisfactorily completed all units within the Advanced Course in Drug Discovery and Development. |
| Oral presentation | A 20 min (minimum) public oral presentation (e.g. at a theme/centre seminar) is required. Candidates are encouraged to schedule this 30 min prior to meeting with the Milestone Review Panel and invite all theme members. If an alternative forum is chosen (e.g. conference presentation), at least one member of the panel must be present. |
| Progress/confirmation report (research proposal) | This document should be single spaced in Times Roman 12 point font, A4 paper, with 2 cm margins and <10 pages. The following sections should be included:  
- Research proposal abstract  
- Updated statement of aims/hypotheses  
- Experimental plan for each aim  
- References |
| Comprehensive literature review (thesis introduction): | This document will be reviewed yearly and will form the basis for the Introduction to the candidate’s thesis. Together the supervisors and candidate should identify an appropriate journal (or book series) to submit the review for consideration. This document MUST be supervisor approved prior to panel submission. The document should be ~40 pages double spaced, 12pt Times New Roman, A4 size with 2 cm margins (not including references or figures). |

### MID-CANDIDATURE REVIEW – 24 MONTHS

| Oral presentation | A 20 min (minimum) oral presentation at a theme/centre seminar is required. Candidates are encouraged to schedule this 30 min prior to meeting with the Milestone Review Panel. This is a public forum and members of the theme must be invited to attend. |
**Progress report**

This document should be single spaced in Times Roman 12 point font, A4 paper, with 2 cm margins and <10 pages. The following sections should be included:

- Updates to Thesis Introduction
- Updated statement of aims/hypotheses
- Progress report of completed work
- Materials and Methods
- References
- Timetable to completion
- List of publications/presentations

**MID-CANDIDATURE (PRE-SUBMISSION) REVIEW - 36 MONTHS**

<table>
<thead>
<tr>
<th>Progress report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Updates to Thesis Introduction</td>
</tr>
<tr>
<td>Progress report of work completed since previous meeting</td>
</tr>
<tr>
<td>One of the following: (i) published paper (preferred); (ii) submitted original research manuscript; or (iii) draft thesis results chapter.</td>
</tr>
<tr>
<td>A thesis outline (&lt; 3,000 words) that provides an overview of the research project, major findings, summary of research publications (or publication strategy) and a timeline for completion.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commencing with a 20-30 min presentation by the candidate, the panel will undertake broad-ranging questioning of the candidate. The Panel must be convinced that the candidate has sufficient research data and has developed as an independent researcher to progress to submission. The Panel will provide feedback on the publication strategy/thesis outline and advise on the most desirable path to successful completion. The Panel should also offer assistance in career planning at this meeting.</td>
</tr>
</tbody>
</table>

**EXIT SEMINAR - <48 months**

<table>
<thead>
<tr>
<th>Oral presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public seminar (45min plus 15 min questions) delivered to the entire faculty.</td>
</tr>
</tbody>
</table>
Overview of milestone requirements

Figure 2: Schematic overview of milestone requirements for each year of the DDB PhD program.

Additional course requirements

DDB and MIPS seminars
All students are expected to attend a minimum of 80% of DDB and MIPS seminars. Students will also have the opportunity to have lunch with invited speakers. Attending speaker lunches is strongly encouraged, as these provide an opportunity to practice networking and communication skills and develop scientific relationships with researchers external to our faculty.

Annual DDB student-run symposium
All students are expected to present a short talk (10min + 5min questions) on research in progress at the DDB student-run symposium. This 2-day event is a theme highlight where there are plenty of opportunities to engage with your peers as well as early career researchers and staff within the theme. Becoming a member of the organising committee provides a great opportunity to develop your interpersonal and organisational skills, embellish your CV and gain insights into what it takes to put together a conference.

MIPS annual HDR symposium
All students are expected to participate in this annual event at least twice during their candidature.

Three-minute thesis competition
All students are expected to participate in this annual event at least twice during their candidature.
BEYOND THE THEME

Faculty of Pharmacy and Pharmaceutical Sciences
The Faculty of Pharmacy and Pharmaceutical Sciences, previously the Victorian College of Pharmacy, was established in 1881.

As Australia’s number-one and a world top 10 ranked pharmacy and pharmacology program (QS World University Rankings by Subject), we are leading pharmacy and pharmaceutical science educators and researchers. Our research, undertaken by Australia’s leading biomedical and pharmaceutical research scientists (2011 ERA rankings 5/5), is having an impact on health around the globe.

Our successes include the joint design and development of the influenza treatment, Relenza, the collaborative design of a potential single-dose malaria treatment, and new approaches to delivering drugs to the body more effectively.

We are a specialist campus, located in Melbourne’s ‘Parkville strip’, Australia’s premier health and biomedical precinct. We are close to Melbourne CBD and the famous cafes and street life of Lygon Street and Sydney Road.

Parkville Postgraduate Association
The Parkville Postgraduate Association (PPA) is the representative body for postgraduate students at the Parkville campus, run completely by a committee of postgraduate students from across all the departments at this campus, forming a strong, diverse, and vibrant student association.

Just by being a postgraduate student at Parkville, you are automatically a member of PPA and have access to all the opportunities and social events the PPA offers. The PPA is involved in all aspects of academic, cultural and social student life, ensuring that interests of postgraduates are looked after. Whilst running a number of exciting social events, they are also involved in events such as the MIPS HDR Symposium, charity events, including ‘PPA Trivia Night – Fundraiser for Murdoch Children's Research Institute’ and ‘Australia’s Biggest Morning Tea’.

The PPA is part of a Monash-wide representative body for all postgraduate students, the Monash Postgraduate Association (MPA), and together they aim to serve the interests and welfare of postgraduates.

For more information:
- check out the website [https://www.intranet.monash/pharm/students/ppa](https://www.intranet.monash/pharm/students/ppa)
- like on Facebook (www.facebook.com/ParkvillePostgradAssociation),
- check out the noticeboard near the PPA room on the ground floor of the Scott building.
Parkville career forum
Monash Parkville is training high-achieving HDR students, but these students are often unaware that the wide array of skills they obtain during their training actually make them desirable candidates for careers in many different sectors, including academia, law, industry, business and communications.
To address this gap in knowledge, Monash Parkville Forum (MPF) hosts regular events called "What is Out There?"; inviting professionals from various sectors to engage in a forum with Parkville students. These forums will:
- highlight to HDR and undergraduate students the broad set of career paths that are available for people who have completed a science PhD;
- promote networking between the talented professionals currently training in Monash Parkville and the invited speakers
For more information:
- check out the website https://www.monash.edu/pharm/about/events/parkville-career-forum
- follow updates on twitter @ParkCareerForum

Parkville campus
Surrounded by parks, we're a short tram ride from Melbourne CBD and within walking distance of the vibrant inner-city suburbs of Carlton and Brunswick, which have contributed much to Melbourne’s artistic and multicultural soul.

Getting to and from campus
By car
We’re located on Royal Parade, an extension of Elizabeth Street, if coming from the city and heading north, and Sydney Road, if coming from Brunswick and heading south (Melways reference, map 29, G12). Limited parking permits are available on campus. Parking is also available in the surrounding streets – but note the meter times and parking restrictions on the street signs.

By tram
Take the number 19 (North Coburg) tram, which travels along Elizabeth Street, Royal Parade and Sydney Road. The trip from Melbourne takes about 15 minutes.

By train
Catch the Upfield line train from Flinders Street, Southern Cross or any of the City Loop stations to Royal Park Railway Statio, followed by a short walk across parklands.

By bike
Monash Parkville is close to many bike tracks and on-road bike lanes routes. For information/handy hints about riding Victorian roads visit Bicycle Victoria. Bikes cannot be brought into or stored in any building other than the basement. Secure bike racks are available in the building 4 basement accessed via your swipe card. There are also designated bike racks throughout the campus. Note that these racks are publicly accessible; ensure you always use a trustworthy lock.
Monash University Parkville campus
Faculty of Pharmacy and Pharmaceutical Sciences

Building 401
- Reception
- Student services
- Gessar Hall
- Sissons meeting room
- Board room
- Lecture Theatre 5
- Tutorial rooms
- Lecture theatres 1, 2, 3

Building 402
- Cafeteria
- Library
- Security office
- Toilets
- Facilities and services
- Virtual practice environment 1 and 2
- Professional practice suites 1 and 2
- Centre for Medicine Use and Safety

Building 403
- Library
- G. Hutchins Pharmacy Library
- Lecture Theatre 4

Building 404
- Office of the Dean
- Monash Institute of Pharmaceutical Sciences
- IT services
- Victorian College of Pharmacy Foundation
- Centre for Drug Candidate Optimisation

Also accommodated at the Parkville campus:
Pharmaceutical Society of Australia (building 401, level 1)
Useful contacts

Monash Parkville Security
Security has personnel on duty 24hr/7 days a week and can be contacted on 39999. In case of an on-campus emergency dial 333. (For emergency services i.e. police, ambulance and MFB dial 000). You will be provided with out-of-hours general building access as well as access to the laboratories that you are authorised to use. If you come in out-of-hours you are required to sign in at the security desk in building 4.

eSolutions Service Desk
For all IT Support requests, help, and advice please contact the eSolutions Service Desk. The dedicated Service Desk support team will ensure your issues are resolved by the appropriate right team. In many instances this will be the Service Desk themselves. In order of preference you may contact the Service Desk:
- extension: x51777
- on-line at https://ServiceDeskOnline.monash.edu/
- by email at ServiceDeskOnline@monash.edu

Research resources
During your induction you’ll get a rundown of how to use the library, including:
- how to search for journal articles online
- sessions on Endnote (which you can download FREE to your home laptop)
- how to request documents and books from other institutions and
- how to back-up your research work on the university server
For a refresher, make an appointment to see your library staff who are more than happy to help you out. The library also has online information here, including online tutorials.

Social spaces and food
As a postgraduate student, you have access to the PPA room on the ground floor of the Scott building, closer to the Mile Lane end of the building. You will need your student ID card to get access to the room. If you can’t get access, either email Karen.Drakatos@Monash.edu or go and see security and they will rectify the situation. Please keep this area tidy and wash up after yourself (including spills on benches and in the microwave).

Purchasing food
There are 2 food outlets on-campus – Le Zodiaque (ground floor Scott) and Primary cafe (ground floor building 4). Off campus: Parkside is located on the corner of Walker St and Royal Pde, along with a sushi bar, and a convenience store, Parkville Express, located on Walker St. At Ikon Park across Royal Parade, there is the Carlton Cafe where you’ll likely spot an AFL or rugby player. Three tram stops on the #19 towards North Coburg from here, Royal Pde becomes Sydney Rd, where you can find a plethora of diverse restaurants, cafes and shops.

Beer club
Held every Friday from 5pm, Beer Club provides an opportunity for staff and students from each theme to socialise and network.
THE WIDER SCIENTIFIC COMMUNITY

Parkville Biomedical Research Hub
The close contact between staff and students on our specialist campus fosters a supportive community in the heart of Australia's top health and biomedical precinct. Our neighbours include major hospitals, the University of Melbourne, the Walter and Eliza Hall Institute, the Howard Florey Institute, CSL Limited, the Peter Doherty Institute of Infectious Diseases, Peter Mac Comprehensive Cancer Centre and CSIRO's Division of Health Sciences.

American Society for Pharmacology and Experimental Toxicology (ASPET)
ASPET members (~5000) conduct basic and pharmacological research in various research organisations including academia, biotech, large pharmaceutical companies, government and non-profit organisations. The society is part of FASEB (Federation of American Societies for Experimental Biology) with the annual scientific meeting held within the larger multidisciplinary FASEB meeting: Experimental Biology, comprised of over 14,000 scientists and exhibitors. Membership benefits include:
- discounted registration for Experimental Biology
- access to ASPET journals
- waived publication fees for ASPET journals
- graduate student travel grants for scientific meetings
For more information: https://www.aspet.org/ or twitter updates: @ASPET

American Association of Pharmaceutical Scientists (AAPS)
AAPS Monash University student chapter provides a dynamic international forum for the exchange of knowledge among pharmaceutical scientists to enhance their contributions to health. The chapter aims to provide a platform for students to interact with a wide range of pharmaceutical science resources throughout the year:
- career development and leadership seminars
- organising networking opportunities and social gatherings
For more information, check out the website:
http://intranet.monash.edu.au/pharm/students/aaps.html

Australasian Society for Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT)
ASCEPT promotes advances in pharmacological research, provides teaching and training and ensures that ASCEPT has a major role in advising government and other organisations. By becoming a member of ASCEPT you will benefit from:
- discounted registration for the annual scientific meeting
- networking opportunities
- international links and professional partnerships with other peak scientific societies
For more information, check out: https://ascept.org/join-ascept/ or twitter:@ASCEPTanz
Australian Society for Biochemistry and Molecular Biology (ASBMB)
Biochemistry and molecular biology is the study of structures and processes that constitute the foundation for all living matter and draws together biology, chemistry and physics approaches/techniques. ASBMB advances the study of biochemistry and molecular biology in Australia and coordinates the national scientific conference ComBio. Young scientists have many opportunities to network at the national meeting as well as travel awards for local and international meetings.
For more information: https://www.asbmb.org.au/

Australian Society for Medical Research (ASMR)
The peak society representing the interests of Australian health and medical researchers, ASMR has a long established role in public, political and scientific advocacy. ASMR hosts an annual scientific meeting as well as the bi-annual Australian Health and Medical Research Congress. In addition, ASMR provides support to junior researchers through travel awards, career development and mentoring programs.
For more information: http://www.asmr.org.au/

British Pharmacological Society (BPS)
The BPS has the mission to promote and advance the whole spectrum of pharmacology, representing the interest of >3,500 members from over 60 countries. Members of the BPS benefit from:
- free or discounted registration for meetings
- networking events
- free access to BPS publications
- travel bursaries to attend scientific meetings
For more information: https://www.bps.ac.uk/about-us or twitter updates: @BritPharmSoc

International Society for Heart Research (ISHR)
Membership of ISHR is open to all scientists who have an active interest in the cardiovascular system, including both experimental and clinical researchers. The mission of ISHR is to promote the discovery and dissemination of knowledge in cardiovascular sciences at an international level. The Australasian section of ISHR, is the Cardiac Society of Australia and New Zealand (CSANZ). Members of ISHR benefit from:
- reduced registration fees for world congresses and section meetings
- reciprocal membership privileges with other ISHR sections
- eligible for a variety of ISHR awards, including student travel awards
For more information: http://www.ishrworld.org/

International Society for Neurochemistry (ISN)
ISN hosts a biennial meeting that attracts >1500 attendees from all corners of the globe and promotes all aspects of molecular and cellular neuroscience. ISN also publishes the Journal of Neurochemistry. Member benefits include:
- reduced meeting registration rates
- multiple funding mechanisms for travel grants and awards
- student membership is free the first year and $15USD/year
For more information: https://www.neurochemistry.org
International Union of Basic and Clinical Pharmacology (IUPHAR)
IUPHAR is non-profit association that represents the interests of pharmacologists worldwide and promotes cooperation between different pharmacology societies. IUPHAR is also responsible for the World Congress of Pharmacology, held every four years in conjunction with a local organising committee. IUPHAR world congresses bring together both pre-clinical and clinical pharmacologists.

Importantly, IUPHAR is responsible for the NC-IUPHAR (IUPHAR Committee on Receptor Nomenclature and Drug Classification) initiative that provides guidelines surrounding nomenclature and classification of biological targets for current and future medicines. NC-IUPHAR together with BPS is responsible for the online and freely available http://www.guidetopharmacology.org or twitter: @GuidetoPHARM

Society for Neuroscience (SfN)
SfN is the world's largest society for scientists/physicians (~38,000 members) that investigate the brain and nervous system. In addition to a great scientific program, the annual scientific meeting provides many opportunities for networking, career development (including a job fair) and educational opportunities for undergraduate, graduate and postdoctoral scientists. You must be a member of the society to submit an abstract or conference proposal for the annual meeting as well as receive reduced registration and advance hotel reservations. In addition, the local SfN chapter (based at University of Melbourne) holds community outreach, networking and career development events.
For more information: https://www.sfn.org/ or twitter updates: @SfNtweets.

Students of Brain Research (SoBR)
Based in Victoria, SoBR is a social and academic network that provides multiple opportunities for students to network and share research and experiences. In addition to the annual student research symposium, the network also facilitates professional development events.
For more information: http://www.sobrnetwork.org/ or twitter updates: @SOBRnetwork