



Bio21 Molecular Science and
Biotechnology Institute
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Facts & Figures

"Just the facts, Ma'am. Nothing but the facts." Detective Joe Friday, *Dragnet*

History of the Site

The Bio21 Institute is built in the grounds of the University of Melbourne's Veterinary Precinct (now Western Precinct), which was established in 1908.

From the late nineteenth century the site was a livestock market. The heritage-listed remains of the market wall stand by the entrance to the Institute. A horse head sculpture from the market entrance now stands at the corner of Story Street and Park Drive.

In 1930, CSIRO established the Animal Health Research Laboratory on the site. The laboratory played an important role in controlling disease problems like black disease and cheesy gland in sheep, and pleuropneumonia and tuberculosis in cattle, and poultry diseases.

In 1996, CSIRO Animal Health moved from Parkville to the Australian Animal Health Laboratory in Geelong. One of the former CSIRO buildings now serves as the Bio21 Institute business incubator.

In 2001, the State Government donated the land in the Western Precinct (previously a Crown Lease to The University of Melbourne) as part of their contribution to the Bio21 Project. Building of the Bio21 Institute started in May 2002 and the first phase of the building program was completed in Dec 2004. The first intake of researchers was in February 2005. The fit out of unfinished areas within the building has continued in three stages and is expected to be completed in 2007.

The Institute Building

Architects	Design Inc.
Builders	Boulderstone Hornibrook (first stage)
Engineering consultants	Uowlai
Project management	U of M Property & Campus Services
Construction started	May 2002
Practical completion (first stage)	Dec 2004*
Overall size	22,000m ²
Laboratory and office space	~17,000m ²
Laboratory floors	11
Parking	~140 spots (70 underground)
Coffee shop capacity	80-120 seats
Auditorium	200 seats
Atrium	7 stories high (23.4m)

* Fit-out of certain areas is ongoing, with completion expected by June 2007

Funding Sources

Total building cost ~\$122.6 million. Major contributors:

- The University of Melbourne \$60.5M
- Atlantic Philanthropies \$30M
- Victorian Government (DIIRD) \$20M
- Federal Government (Health) \$9.5M

Over \$30M has been invested (cash and in-kind) in major platform technologies in the Institute.

Research Overview

University of Melbourne participant departments:

- Biochemistry and Molecular Biology
- Chemistry
- Genetics
- Dental Science
- Chemical and Biomolecular Engineering
- Mechanical Engineering
- Pathology
- Medicine (St Vincent's and Royal Melbourne Hospitals)
- Zoology
- Associated departments including: Physics, Pharmacology, Veterinary Science, Physiology, Microbiology, Immunology, Anatomy, Cell Biology and Botany

Other participating Academic Institutions:

- Neuroscience Victoria
- Howard Florey Institute
- Walter and Eliza Hall Institute
- Mental Health Research Institute
- CSIRO
- Bone Marrow Research Laboratory
- St Vincent's Institute of Medical Research
- Royal Melbourne Hospital
- Royal Women's Hospital
- Royal Children's Hospital
- St Vincent's Hospital
- Peter MacCallum Cancer Research Institute

Research Staff numbers (current):

The Institute currently hosts ~360 researchers:

- ~33 research groups
- 7 companies
- CSL's core R&D group will take up residency in the Institute in 2007, following completion of a new laboratory fit out
- 60 BSc Honours students, 70 PhDs, 60 post-docs/RAs, expected to increase to a total in excess of 200

Research Staff numbers (capacity):

When fully operational, the total research and support staff numbers will be ~450:

- ~35 research groups representing 12 academic disciplines
- 300+ Institute research staff and research students
- Up to 50 visiting researchers and industry scientists working in visitor labs
- Major industry tenant and up to 10 start-up companies with total staff of ~100

Governance

The Institute is part of The University of Melbourne. Deputy Vice Chancellor (Research) Prof. John McKenzie, Chairs the Institute's Board of Management, which includes senior University representatives and distinguished external members.

Key Management Staff

Prof. Dick Wettenhall, Director
rehw@unimelb.edu.au

Dr Annabelle Duncan, Deputy Director
and Chief Operating Officer
annabelle.duncan@unimelb.edu.au

Head of Bio-Innovation Division (position vacant)

Mr Paul Tring, Chief Financial Officer
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Mr Jean-Pierre Gorry, Manager, Operations
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Ms Helen Varnavas, Manager, Communications
and Industry Liaison
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Dr Vladimir Likić, Head of Bioinformatics
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Dr Denis Scanlon, Head of Research Transfer Facility
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Dr David Stapleton, Head of Proteomics Facility
dis@unimelb.edu.au

Dr David Keizer, Manager NMR Facility
dkeizer@unimelb.edu.au

Mr Michael Blake, Manager of Procurement and Stores
mablake@unimelb.edu.au

Mr Maxwell Walker, Manager of Animal House
mgwalker@unimelb.edu.au

Major Platform Technologies

NMR facility

- 400m² custom-built facility with 9 NMR instruments ranging from 300MHz solid state NMR to 800 MHz
- New 800 MHz NMR Spectrometer (\$5.7M Vic. Gov't)
- New 600 MHz solid spectrometer (\$1M, LEIF grant)

Nanobiotech/ Electron Microscopy Facility

- 100m² HEPA-filtered clean room
- 2 scanning electron microscopes (SEM)
- Focused ion beam SEM
- FEG-300kV cryo-Transmission EM (TEM)
- FEG-200kV TEM configured for materials imaging and micro-analysis
- 2 atomic force field microscope (AFM)
- High-resolution confocal laser scanning microscope (Leica) for multi-colour functional imaging of fixed or live cells

Mass Spectrometry

- 12 mass spectrometers distributed throughout the Institute
- Life science visitor lab has several mass specs for proteomics and metabolomics applications

Bio-molecular Interaction Analysis Facility

- Comprehensive facility for analysis of bio-and macromolecular interactions, incl. micro-calorimetry, analytical ultracentrifugation & related technologies

Synthetic Chemistry

- 10 research groups dedicated to synthetic chemistry with broad range of synthetic and analytical equipment and expertise

Animal Facilities

- 700m² rodent house
- Clean breeding facilities
- 600m² insect breeding and containment facility

Visitor Labs (Research Transfer Facility)

Three visitor laboratories cover >5% of the Institute's lab space: Visitors can book a bench for 1 week to 1 year.

Life Science

- 20 bench spaces

Chemistry

- 12 bench spaces and associated fume hood complex

Nanobiotech/Electron Microscopy/Clean Room

- 8 bench spaces (4 in clean room)
- Platform technologies to support protein and peptide-based nano-biology projects

Bio21 Institute Business Incubator

Previous use of building

CSIRO Animal Health

Gross space

2200m²

Rentable space

1100m²

Research Group Leaders (Current Residents)

- Dr Kevin Barnham
- A/Prof. Philip Batterham
- Dr Roberto Cappai
- A/Prof. Heung-Chin Cheng
- Prof. Paul Gleeson
- Prof. Paul Gooley
- Dr Sally Gras
- Dr Andy Hill
- Prof. Ary Hoffmann
- Prof. Andrew Holmes
- A/Prof. Geoffrey Howlett
- Dr Craig Hutton
- A/Prof. Darren Kelly
- A/Prof. Trevor Lithgow
- A/Prof. Bruce Livett
- Prof. Malcolm McConville
- Dr Terry Mulhern
- Prof. Paul Mulvaney
- Prof. Richard O'Hair
- Dr Tony Purcell
- A/Prof. Mark Rizzacasa
- Dr Charles Robin
- Prof. Carl Schiesser
- Prof. Frances Separovic
- Dr David Stapleton
- Prof. Anthony Wedd
- A/Prof. Jonathon White
- A/Prof. Ian Van Driel
- Dr Scott Watkins (CSIRO Molecular Science)
- Dr Uta Wille
- Dr Spencer Williams

Research Group Leaders (Joint appointments, external Institutes/CRC)

CRC Oral Health Science

- Prof. Eric Reynolds (Head)
- Dr Stuart Dashper
- Dr Neil O'Brien-Simpson
- Dr Nada Slakeski

St Vincent's Institute for Medical Research

- Prof. Michael Parker

Neurosciences Victoria

- Prof. Colin Masters (Pathology/Mental Health Research Institute)

Other Bio21 Affiliates

- A/Prof. Gary Anderson (Pharmacology/ RMH)
- Dr Stephen Jane (Bone Marrow Research Laboratory)

Non-Resident Platform Technology Principals

NMR

- Prof. Ray Norton (WEHI)
- Dr Mark Hinds (WEHI)
- Dr Martin Scanlon (Monash University, Victorian College of Pharmacy)

Nanobiotech/ Electron Microscopy Facility: Principle users

- Prof. Tony Bacic (Botany, U of M)
- Prof. Frank Caruso (Chemical and Biomolecular Eng., U of M)
- Dr Rachael Caruso (Chemistry, U of M)
- Prof. Steven Prawer (Physics, U of M)
- Prof. Paul Mulvaney (Chemistry, U of M)
- Prof. Tony Goodwin (Anatomy & Cell Biol., U of M)
- Prof. Paul Monagle (Pathology, U of M)