

The magnetisation vectorfield in a Nickel pyramid shell exhibits an asymmetric vortex.  
Image supplied by A Knittel, M Franchin, T Fischbacher, H Fangohr (2010)

# Condensed Matter and Materials Physics **CMMP10**

**14 – 16 December 2010**  
**University of Warwick, UK**  
**[www.cmmp.org.uk](http://www.cmmp.org.uk)**

Organised by the IOP Condensed Matter and Materials Physics Division

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Disclaimer

The Institute of Physics, Warwick University and their approved representatives cannot take responsibility for any accident, loss or damage to participants or to their property during the conference.

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## General Information

### Venue

Ramphal Building  
University of Warwick  
Coventry  
CV4 7AL

A map of the campus is available at the back of this document or to download from the conference website [www.cmmpp.org.uk](http://www.cmmpp.org.uk)

### Travel

The University of Warwick is located on the outskirts of Coventry. Full travel details (by road, rail and air) are available via the conference website or by visiting the University of Warwick website at [www.warwickconferences.com](http://www.warwickconferences.com)

\*Note: If travelling by train, the closest station is COVENTRY.

### Parking

Please note that not all car parks are adjacent to your registration and accommodation area. Conference participants should park in car parks 15, 8a and 7. You will need the code **#6381\*** in order to enter and exit these car parks.

### Conference registration

Registration will be in Rootes Reception (map reference C6, Building 51) from 16:00 – 18:00 on Monday 13 December. From Tuesday onwards, registration will be in the main foyer of the Ramphal Building (map reference D4, Building 49). A campus map is available at the back of this document or to download from CMMP website [www.cmmpp.org.uk](http://www.cmmpp.org.uk).

### Conference registration desk

The registration desk will be open during the following times:

Monday: 16:00 – 18:00 in Rootes Reception  
Tuesday: 09:30 – 18:00 in the main foyer of the Ramphal Building  
Wednesday: 08:30 – 18:00 in the main foyer of the Ramphal Building  
Thursday: 08:30 – 13:00 in the main foyer of the Ramphal Building

*Please note that during lunch times the registration desk may be unmanned for a short period of time.*

On arrival, you will receive a registration pack containing conference material and a lapel badge. Please wear your badge at all times. This will allow entry to the restaurants and help with security. It will also allow you to identify fellow delegates. Replacement badges can be issued at the registration desk.

### Overview

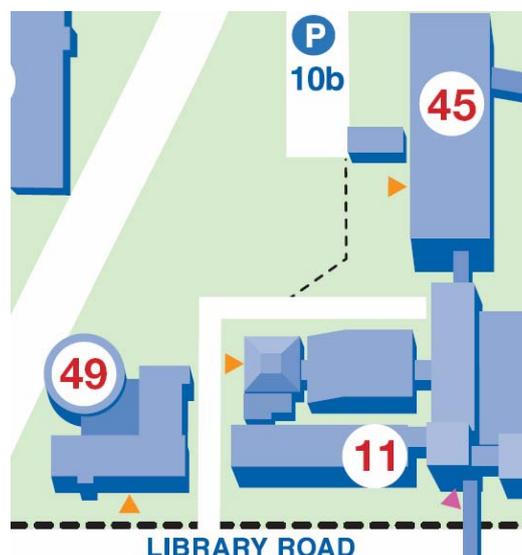
Technical Sessions:	Ramphal Building / Physics Concourse
Posters:	Physics Concourse
Exhibition:	Physics Concourse
Refreshment Breaks:	Ramphal Building / Physics Concourse
Lunch	Physics Concourse

### Diagram Key:

49: Ramphal Building  
45: Physics Concourse  
11: Chemistry Building

### Please note

Plenary sessions in the Ramphal lecture theatre will be at capacity, and you are therefore asked to ensure that you do not leave any spaces in between seats. Conference assistants will be in the lecture theatres to ensure that the seating is utilised.



### **Public telephones**

Coin operated and phone card telephones are available through out the campus, including meeting areas, Rootes Building and within the residential areas. Bedrooms do not have telephones.

### **Cloakroom and left luggage facilities**

A left luggage facility is available in Rootes Building for delegates wishing to leave luggage. A coat rack will be provided in the Ramphal Building foyer. Please note this will not be manned and belongings are left at the owners risk.

### **Messages**

A message board will be placed near the conference registration desk. Participants should check regularly for messages, as an attempt to locate participants during session times will only be made in case of emergency. During 07:00 and 23:00 please telephone +44 (0)24 7652 2280. For emergency messages outside these times please call the main University Switchboard on +44 (0) 24 7652 3523. Visitors in need of emergency assistance during the conference should contact security on internal extension 22222.

### **University Facilities**

Facilities at the University include a bookshop, music store, pharmacy, cinema, hairdressers, newsagent, Post Office, supermarket and a launderette. There are two major banks on campus with cash dispensers.

Sports facilities are available to residential delegates free of charge. You will need to take your room key in order to access the facilities. These include swimming pool, squash courts, gymnasium and outside tennis courts. Squash and tennis courts can be booked at the Sports Centre Reception (Ext 23011). The general opening times are 07:15 – 21:30 daily.

### **Internet Access**

All bedrooms on campus are networked for free internet access via network point (for computers with an Ethernet network card). Internet cables are available from Rootes Reception. Alternatively, PC's with free internet access are available for both day and residential guests in Rootes Reception. These may be accessed 07.00 – 23:00 every day.

### **Accommodation**

#### **Arrivals and check-in**

All bedrooms have clock radio, free internet access, tea and coffee making facilities, hairdryer and are fully equipped with towels and toiletries. Iron and Ironing boards are available in the kitchen/lounge areas.

Room keys are available from Rootes Building from 15:00 on the day of arrival. Rooms keys will also be available between 15:30 – 16:00 on the Science Concourse on Tuesday 14 December to assist those who arrive on Tuesday.

Rootes Building is open from 07:00 – 23:00. If you are arriving outside of these times please contact the conference office in advance.

#### **Departure & Check-out**

Residential guests are asked to vacate their bedrooms by **09:30**. Keys should be returned to Rootes Reception or in the boxes situated in the entrance halls of each residence. Luggage may be left in the luggage room in Rootes.

#### **Residential meals**

Breakfast and dinner (except for the conference dinner) are for residential participants only. Breakfast will be served daily between 07:30 – 09:30 in Rootes Restaurant located on the first floor of the Rootes Building. Dinner on Tuesday will be served in Rootes restaurant from 18:30 to 20:00.

#### **Lunch and refreshments**

Lunch for all participants will be served on the Science Concourse at the times indicated in the programme. Lunch is included in the registration fee.

All refreshments will be served on the Science Concourse except 10:30 on Tuesday and 10:20 on Thursday when it will be served in the foyer of the Ramphal Building.

## **Social Programme**

### **Drinks Reception – Tuesday 15 December**

There will be a welcome drinks reception with the poster session on the Physics Concourse on Tuesday evening at 18:00.

### **Conference Dinner (Buffet) – Wednesday 16 December**

The Conference Dinner will be held in the Panorama Suite, which is located on the second floor of Rootes Building. Dinner will be preceded by a drinks reception in the Panorama Bar from 19:30. Dinner will be a buffet and will be served promptly at 20:00. The Conference Dinner is included in the registration fee.

Participants with special dietary requirements are asked to notify Jon Mackew before their arrival. When entering Rootes Restaurant, please make staff aware of any dietary requirements. Unfortunately it will not be possible to provide an alternative menu unless prior notification has been received.

## **General**

### **Bar Facilities**

A cash bar is located on the first floor of Rootes Social Building and serves draught beers, a selection of bottled beer, wine, spirits, soft drinks and a variety of teas and coffee.

### **First Aid**

Should there be a need for first aid during the conference, please contact in the first instance the registration desk. Outside of registration times, please contact security on 02476 522222 (internal 22222)

### **Fire and Evacuation Procedures**

On discovering a fire: -

Raise the alarm by breaking the glass in the nearest Break Glass Point which will be situated by main exit doors and along evacuation routes. On hearing a continuous ringing of the fire bells please exit the building calmly leaving by the nearest fire exit.

After any evacuation, stand well clear of the building you have exited from. You may be directed to specified fire assembly points by University staff who will monitor and attend any alarm in progress. Do not re-enter the building until told it is safe to do so by the Fire Service or University Security staff.

### **Accidents and Emergencies**

Dial 22222 on any internal telephone to contact 24 hour security who have direct lines to all emergency services.

## **General**

The University of Warwick operates a strict non-smoking policy.

### **Complaints**

We hope that your time at the conference is enjoyable. Should you encounter any problems during your stay please report them to the conference registration desk as soon as possible. The conference team will make every effort to rectify the issue as soon as possible.

## Presenters' Instructions

The lecture theatres are equipped with the following audio-visual equipment:

- Data projector
- PC / Laptop with PowerPoint facilities (Office XP and Windows XP)
- Laser pointer

Speakers wishing to use additional audio-visual equipment or intending to present from a Macintosh computer are asked to contact Lisa Cornwell ([lisa.cornwell@iop.org](mailto:lisa.cornwell@iop.org)) before the conference.

## Presentations

Speakers are requested to bring their presentations on a CD or USB memory stick and preload them onto the PC located in the lecture theatre. Speakers should save their presentation into the appropriate pre-named session folders pre-set on the desktop and files should be saved by speakers surname and initial. To optimise compatibility, particularly for the inclusion of multimedia components, PowerPoint presentations should have been saved using PowerPoint's "Package for CD" facility. Direct connection of personal laptops (with set up in the break prior to the corresponding session) is an acceptable but not preferred alternative.

The lecture theatres are reasonably large, and speakers should use a minimum 15-point font size in PowerPoint slides to ensure legibility.

Presenters are asked to prepare their talks to match the allocated times which will be rigidly enforced by session chairs.

## Poster presentations

Posters will be on display during the conference on the Science concourse. Posters should be no larger than **2m high by 1m wide** in size with a **portrait** orientation. Velcro will be provided for delegates to fix their posters to their board.

Each presenter is responsible for ensuring that their poster is displayed on the board allocated, as specified in the conference programme.

Presenters should refer to the abstract book to take note of which session their poster will be presented in.

Although organisers will endeavour to save poster material, no guarantee can be made for posters not removed at the correct times.

## Symposia and symposium organisers:

### Biological Physics

Jamie Hobbs (University of Sheffield, UK)  
Ray Goldstein (University of Cambridge, UK)

### Computer Simulation of Surfaces and Nanostructures

Simon Crampin (University of Bath, UK)  
Barbara Montanari (Rutherford Appleton Laboratory, UK)

### Correlated Electron Systems

Toby Perring (STFC, UK)

### Energy Materials

Sanghamitra Mukhopadhyay (Imperial College London, UK)  
Ian Morrison (Salford University, UK)

### Local Probe Spectroscopy Methods

Jon Goss (Newcastle University, UK)  
David Keeble (University of Dundee, UK)

### Matter under Extreme Condition

Andrew Gregory (AWE, UK)

### Nanophysics at Low Temperatures

Chris Mellor (University of Nottingham, UK)

### Nanoscale Magnetism and Spintronics I

Del Atkinson (University of Durham, UK)

### Nanoscale Magnetism and Spintronics II

Hans Fangohr (University of Southampton, UK)  
Peter de Groot (University of Southampton, UK)

### Non-Linear Dynamics of Complex Systems

Alain Nogaret (University of Bath, UK)

### Polymer Physics

Joao Cabral (Imperial College, London, UK)  
Simon Hanna (University of Bristol, UK)

### Quantum Memory

Kai Bongs (University of Birmingham, UK)

### Self-Assembly at Solid Surfaces

Philip Moriarty (University of Nottingham, UK)

### Soft Matter in Action

Cait MacPhee (University of Edinburgh, UK)  
Neal Skipper (University College London, UK)

### Solid State Quantum Condensates

Jonathan Keeling (University of Cambridge, UK)  
Jeremy Baumberg (University of Cambridge, UK)

### 100 Years of Superconductivity: New Science and Perspectives I/II/III

David Cardwell (University of Cambridge, UK)

### Quantum Solids and Fluids

Andrei Golov (University of Manchester, UK)

### Surfaces and Interfaces

James O'Shea (University of Nottingham, UK)  
Georg Held (University of Reading, UK)  
Chris Nicklin (Diamond Light Source, UK)

### Symmetry and Order: Frontiers in Statistical Physics

Andrew Fisher (University College London, UK)

### Ultracold Atoms

Lucia Hackermuller (University of Nottingham, UK)  
Vincent Boyer (University of Birmingham, UK)

## Programme

### Tuesday 14 December

Location	Ramphal Foyer					
<b>10.30</b>	Refreshments					
Location	Ramphal Lecture Theatre					
<b>11.00</b>	Introduction and award of Roy Prize					
<b>11.10</b>	<b>Plenary 1: Where Quantum Physics Meets Biology</b> Marshall Stoneham (University College London, UK) Chair: Peter Weightman (University of Liverpool, UK)					
<b>11.50</b>	<b>Plenary 2: Magneticty and Magnetic Monopoles in Spin Ice</b> Steven Bramwell (University College London, UK) Chair: Peter Weightman (University of Liverpool, UK)					
Location	Physics Concourse					
<b>12.30</b>	Lunch					
Location	Ramphal Lecture Theatre	Ramphal Building Room 0.03/0.04	Physics Concourse L4	Physics Concourse L5	Physics Concourse B202	Physics Concourse B204/B205
<b>13.30</b>	<b>Biological Physics I</b>	<b>Energy Materials I</b>	<b>Computer Simulation of Surfaces and Nanostructures I</b>	<b>Nanophysics at Low Temperature</b>	<b>Ultracold Atoms</b>	<b>100 Years of Superconductivity I</b>
Location	Physics Concourse					
<b>15.30</b>	Refreshments					
Location	Ramphal Lecture Theatre	Ramphal Building Room 0.03/0.04	Physics Concourse L4	Physics Concourse L5	Physics Concourse B202	Physics Concourse B204/B205
<b>16.00</b>	<b>Biological Physics II</b>	<b>Energy Materials II</b>	<b>Computer Simulation of Surfaces and nanostructures II</b>	<b>Quantum Solids and Fluids</b>	<b>Symmetry and Order: Frontiers of Statistical Physics</b>	<b>100 Years of Superconductivity II</b>
Location	Physics Concourse					
<b>18.00</b>	Poster Session 1 & Exhibition					
Location	Rootes Building					
<b>19.00</b>	Dinner					
Location	Ramphal Lecture Theatre					
<b>20.00</b>	EPSRC and BBSRC on Interdisciplinary Research					

### Wednesday 15 December

Location	Ramphal Lecture Theatre					
<b>09.00</b>	<b>Plenary 3: Anderson Localisation of Matter-Waves in Controlled Disorder: A Quantum Simulator?</b> Alain Aspect (Institut d'Optique, France) Chair: Nicola Wilkin (University of Birmingham, UK)					
<b>09.40</b>	<b>Plenary 4: Self Assembly of Proteins</b> Athene Donald (Mott Lecture) (University of Cambridge, UK) Chair: Peter Weightman (University of Liverpool, UK)					
Location	Physics Concourse					
<b>10.20</b>	Refreshments					

Location	Ramphal Lecture Theatre	Ramphal Building Room 0.03/0.04	Physics Concourse L4	Physics Concourse L5	Physics Concourse B202	Physics Concourse B204/B205
<b>10.50</b>	<b>Surfaces and Interfaces I</b>	<b>Quantum Memory</b>	<b>Nanoscale Magnetism &amp; Spintronics I</b>	<b>Polymer Physics I</b>	<b>Solid State Quantum Condensates</b>	<b>100 Years of Superconductivity III</b>
Location	Physics Concourse					
<b>12.50</b>	Lunch					
Location	Ramphal Lecture Theatre					
<b>14.00</b>	<b>Plenary 5: Imaging Magnetization Dynamics on its Intrinsic Time Scale</b> Guido Meier (Wolfarth Lecture) (University of Hamburg, Germany) Chair: Tom Thomson (University of Manchester, UK)					
Location	Physics Concourse					
<b>14.40</b>	Refreshments					
Location	Ramphal Lecture Theatre	Ramphal Building Room 0.03/0.04	Physics Concourse L4	Physics Concourse L5	Physics Concourse B202	Physics Concourse B204/B205
<b>15.00</b>	<b>Surfaces and Interfaces II</b>	<b>No Session</b>	<b>Nanoscale Magnetism &amp; Spintronics II</b>	<b>Polymer Physics II</b>	<b>Self-Assembly at Solid Surfaces</b>	<b>Non-Linear Dynamics of Complex Systems I</b>
Location	Physics Concourse					
<b>17.00</b>	Poster Session 2 & Exhibition					
Location	Rootes Building, Panorama Bar					
<b>19:30</b>	Drinks Reception					
<b>20.00</b>	Conference Buffet					

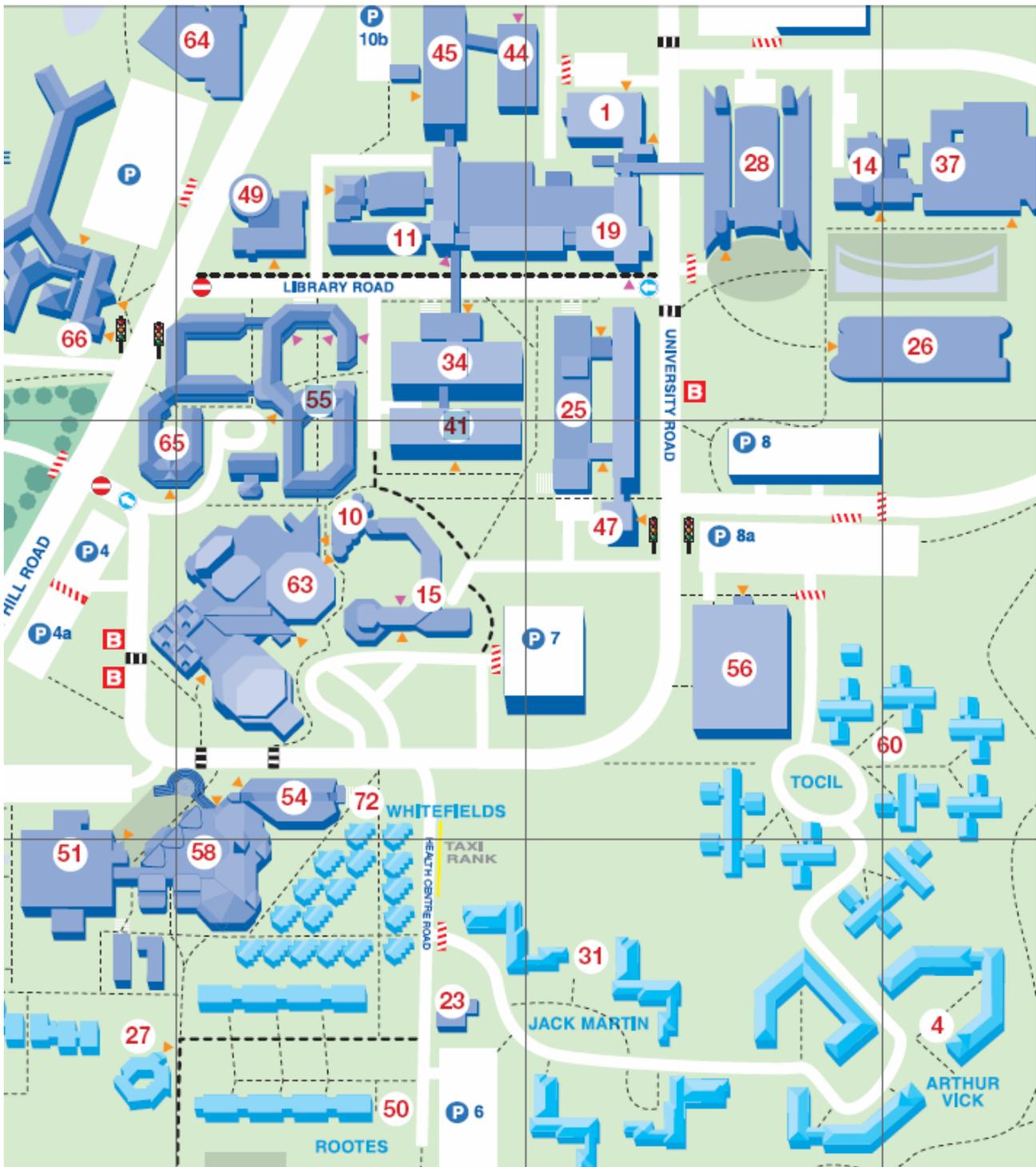
#### Thursday 16 December

Location	Ramphal Lecture Theatre					
<b>09.00</b>	<b>Award of Poster Prizes</b>					
<b>09.10</b>	<b>Plenary 6: Will Polymers Be Used to Make the Next Generation Nano World?</b> Christopher Ober (Cornell University, USA) Chair: John Inglesfield					
<b>09.40</b>	<b>Plenary 7: Understanding Liquid Crystals using Mesoscopic Computer Simulation</b> Mike Cates (University of Edinburgh, UK) Chair: John Inglesfield					
Location	Ramphal Foyer					
<b>10.20</b>	Refreshments					
Location	Ramphal Lecture Theatre	Ramphal Building Room 0.03/0.04	Physics Concourse L4	Physics Concourse B202	Physics Concourse B204/B205	
<b>10.50</b>	<b>Correlated Electron Systems</b>	<b>Local Probe Spectroscopy Methods</b>	<b>Soft Matter in Action</b>	<b>Matter under Extreme Conditions</b>	<b>Non-Linear Dynamics of Complex Systems II</b>	
Location	Ramphal Foyer					
<b>13.00</b>	Lunch and End of Conference					

## Exhibition

An exhibition will be held alongside the conference in the Ramphal building. We would like to thank the following exhibitors for their contribution to CMMP10:



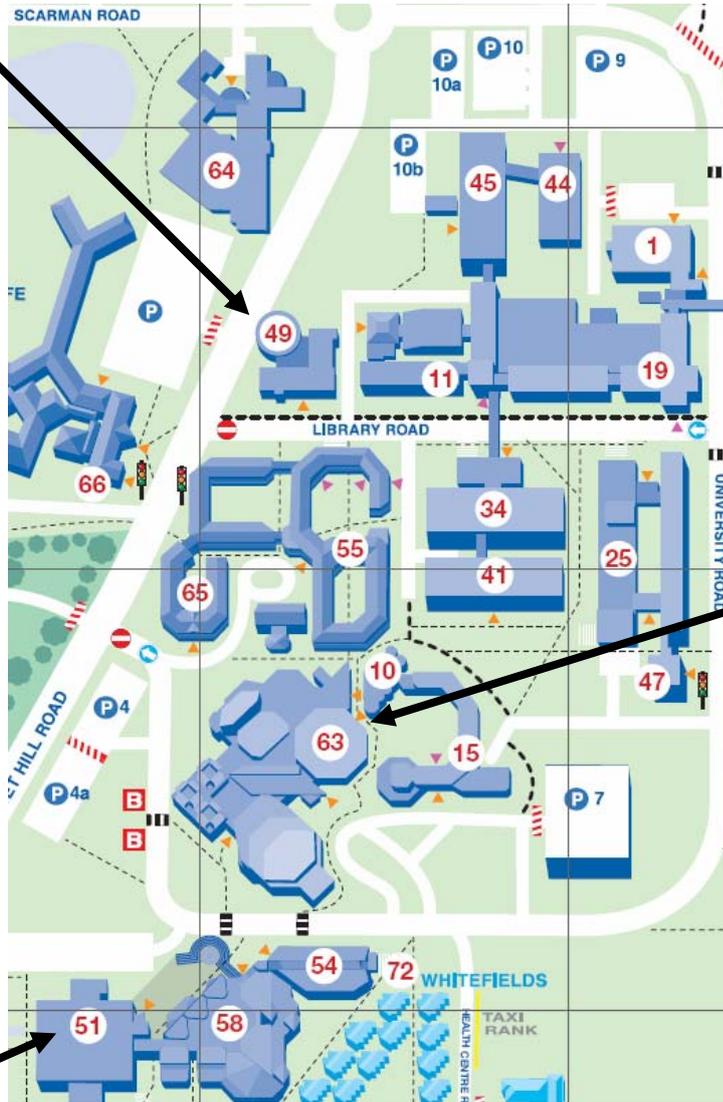


**BUILDING KEY**

Arthur Vick Accommodation.....	4
Chemistry.....	11
Jack Martin Accommodation.....	31
Library.....	34
Physics.....	45
Ramphal Building.....	49
Rootes Building.....	51
Social Sciences.....	55
Warwick Arts Centre, incorporating Music Centre.....	63



49. Ramphal Building



63 . Warwick Arts Centre



51. Rootes Building



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