



SUPA Graduate School



University
of Glasgow



University
of
St Andrews



THE
UNIVERSITY OF
STRATHCLYDE
IN GLASGOW

UNIVERSITY OF THE
WEST OF SCOTLAND

UWS

Avril Manners

Director, SUPA Graduate School

www.supa.ac.uk

The current Pooling initiatives are:

Scottish Universities Physics Alliance (SUPA)

ScotCHEM

WestCHEM

EaStCHEM

Edinburgh Research Partnership in Engineering and Mathematics (ERP)

Glasgow Research Partnership in Engineering (GRP)

Marine Alliance for Science & Technology for Scotland (MASTS)

Northern Research Partnership (NRP)

Scottish Alliance for Geoscience, Environment and Society (SAGES)

Scottish Institute for Research in Economics (SIRE)

Scottish Universities Life Sciences Alliance (SULSA)

Scottish Imaging Network: A Platform for Scientific Excellence

Scottish Informatics and Computer Science Alliance (SICSA)



UNIVERSITY OF ABERDEEN



UNIVERSITY OF DUNDEE



UNIVERSITY OF EDINBURGH



UNIVERSITY OF GLASGOW



HERIOT WATT UNIVERSITY



UNIVERSITY OF ST ANDREWS



UNIVERSITY OF STRATHCLYDE IN GLASGOW



UNIVERSITY OF THE WEST OF SCOTLAND



UWS



UNIVERSITY OF ABERDEEN



DUNDEE




University of Glasgow



UNIVERSITY OF STRATHCLYDE IN GLASGOW

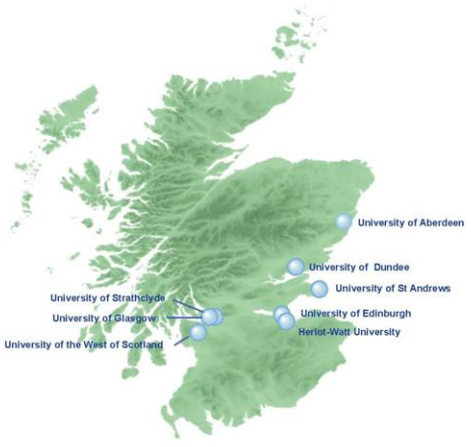



UNIVERSITY OF THE WEST OF SCOTLAND UWS



Scottish Universities Physics Alliance
GRADUATE SCHOOL

SUPA II: Catalogue of Courses & Student Handbook 2010-2011





WHAT IS SUPA?



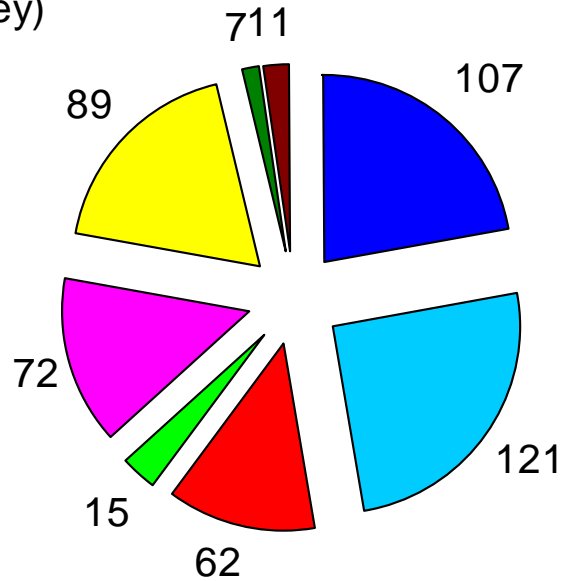
www.supa.ac.uk

- **Astronomy and Space**
- **Condensed Matter and Materials Physics**
- **Energy**
- **Nuclear and Plasma Physics**
- **Particle Physics**
- **Photonics**
- **Physics and Life Sciences**

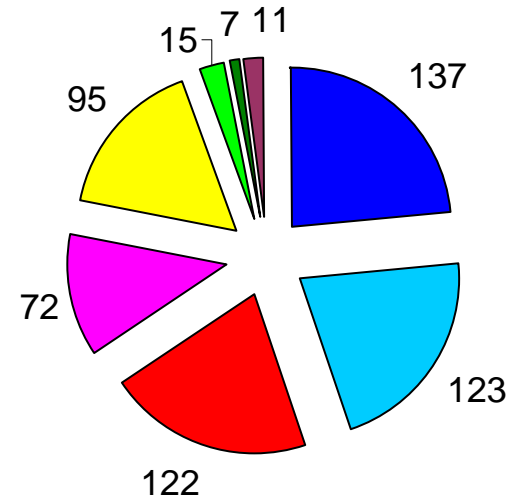


- Edinburgh
- Glasgow
- Heriot-Watt
- UWS (Paisley)
- St Andrews
- Strathclyde
- Aberdeen
- Dundee

484 PhD Students 09/10

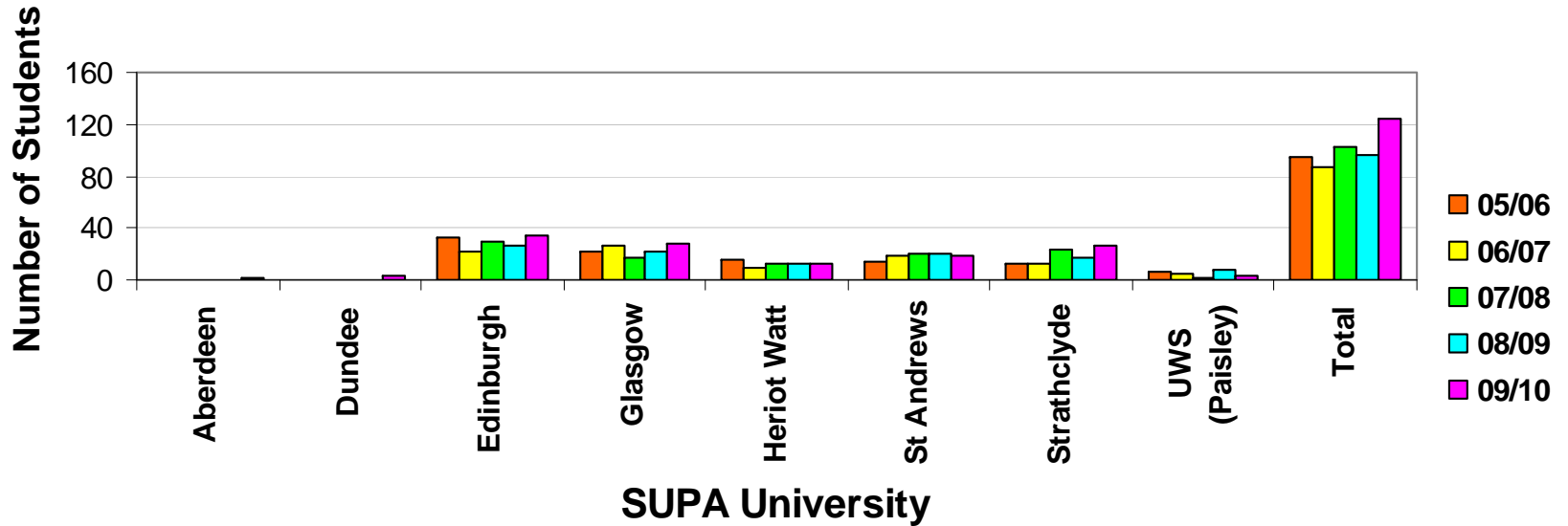


582 Postgraduate Students 09/10

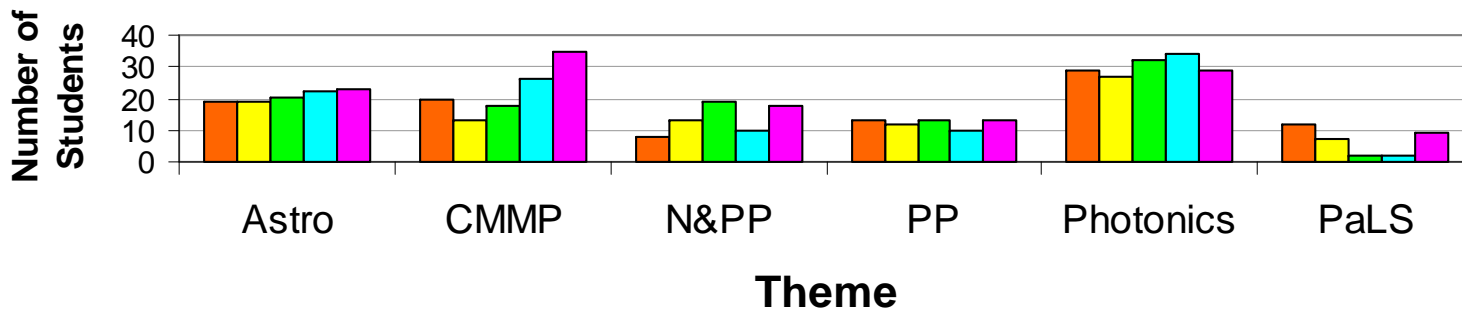




Total Number of PhD Students in Year One



PhD Students in Year One by Theme



■ Technical Courses across themes

- Astronomy / Space Physics
- Condensed Matter & Materials Physics
- Nuclear and Plasma Physics
- Particle Physics
- Photonics
- Physics and Life Sciences

■ Transferable Skills

■ Workshops, Summer Schools, Meetings, Distinguished Visitors

❖ Prize Studentships



UNIVERSITY
OF ABERDEEN



UNIVERSITY OF
DUNDEE



University
of Glasgow

HERIOT
WATT
UNIVERSITY



University
of
St Andrews



THE
UNIVERSITY OF
STRATHCLYDE
IN GLASGOW

UNIVERSITY OF THE
WEST OF SCOTLAND
UWS

Public engagement

Communication

Entrepreneurship, innovation and creativity

Leadership

Management and professional skills

Teaching

Broaden the experience



UNIVERSITY
OF ABERDEEN



UNIVERSITY OF
DUNDEE



University
of Glasgow



University
of St Andrews



THE
UNIVERSITY OF
STRATHCLYDE
IN GLASGOW

UNIVERSITY OF THE
WEST OF SCOTLAND
UWS

■ Transferable Skills

➤ SUPA Specialist Provision

- C++/Object Oriented Programming
- Shell Scripts
- Introductory Data Analysis
- Advanced Data Analysis
- Entrepreneurial Training
- Alumni Careers Event



Flexible approach

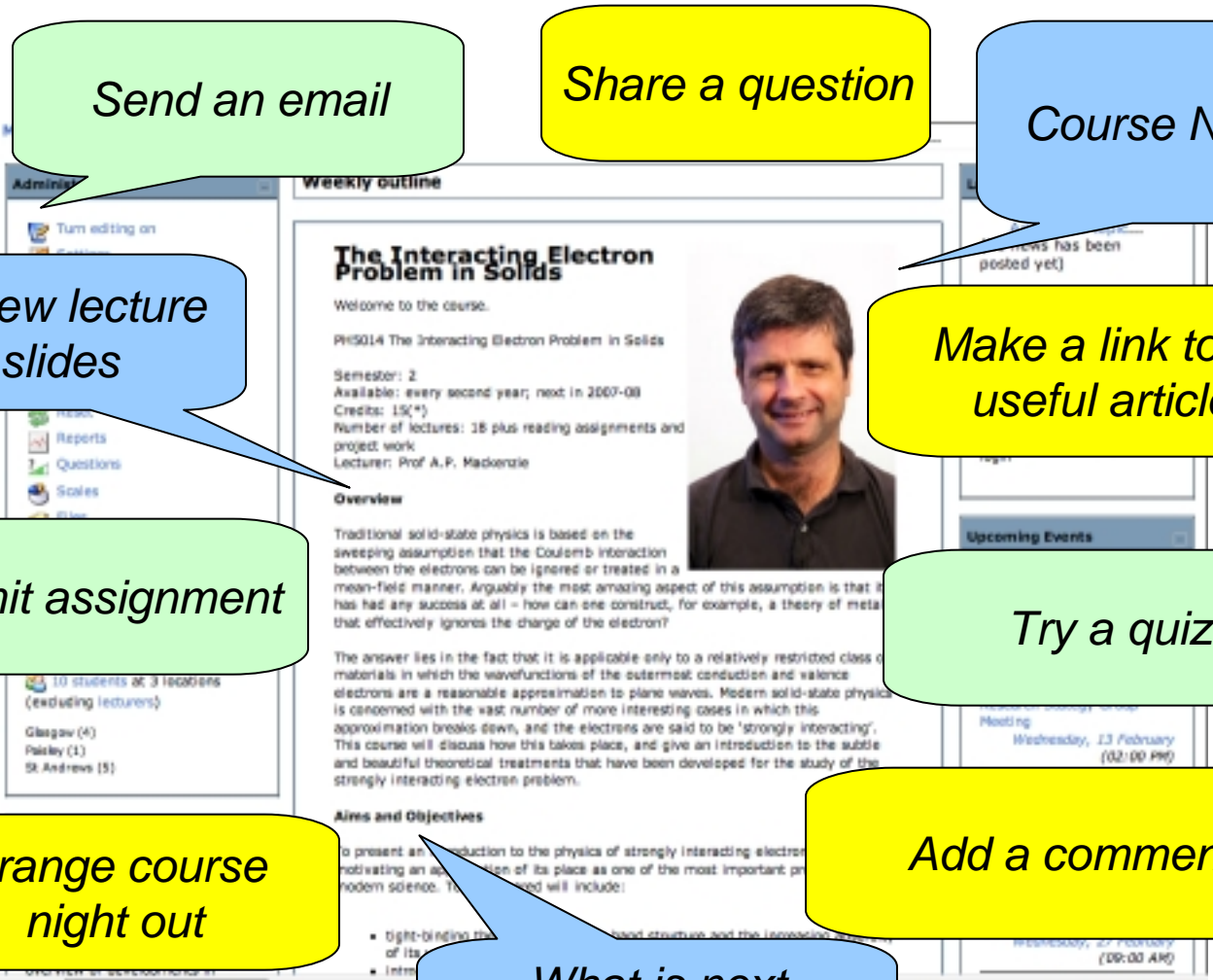
- Induction
- Video-linked lectures
- Face – to – face
- Workshops
- Summer schools
- On-line, web based





My.SUPA (Example of Course Area)

Scottish Universities Physics Alliance

Send an email

Share a question

Course News

Review lecture slides

Submit assignment

Try a quiz

Arrange course night out

Add a comment

What is next lecture about?

Make a link to a useful article

Weekly outline

The Interacting Electron Problem in Solids

Welcome to the course.

PH5014 The Interacting Electron Problem in Solids

Semester: 2
Available: every second year; next in 2007-08
Credits: 15(+)
Number of lectures: 18 plus reading assignments and project work
Lecturer: Prof A.P. Madhuzie

Overview

Traditional solid-state physics is based on the sweeping assumption that the Coulomb interaction between the electrons can be ignored or treated in a mean-field manner. Arguably the most amazing aspect of this assumption is that it has had any success at all - how can one construct, for example, a theory of metals that effectively ignores the charge of the electron?

The answer lies in the fact that it is applicable only to a relatively restricted class of materials in which the wavefunctions of the outermost conduction and valence electrons are a reasonable approximation to plane waves. Modern solid-state physics is concerned with the vast number of more interesting cases in which this approximation breaks down, and the electrons are said to be 'strongly interacting'. This course will discuss how this takes place, and give an introduction to the subtle and beautiful theoretical treatments that have been developed for the study of the strongly interacting electron problem.

Aims and Objectives

To present an introduction to the physics of strongly interacting electrons, motivating an appreciation of its place as one of the most important and modern science. The course will include:

- Tight-binding theory of band structure and the consequences of its breakdown
- Intro...

10 students at 3 locations (excluding lecturers)

Glasgow (4)
Paisley (1)
St Andrews (5)

Meeting: Wednesday, 23 February (02:00 PM)

Meeting: Wednesday, 27 February (09:00 AM)



UNIVERSITY
OF ABERDEEN



UNIVERSITY OF
DUNDEE



University
of Glasgow



University
of St Andrews



THE UNIVERSITY OF
STRATHCLYDE
IN GLASGOW



UNIVERSITY OF THE
WEST OF SCOTLAND
UWS

Since 2008, every SUPA PhD student has been required to complete a minimum of...

- 40 hours of lectures + coursework and **assessment** of technical studies
- 20 hours or 4 days of generic skills *in the first 2 years of their PhD*

Note – Some Themes set a higher recommended level

•Online Prize Application and Selection



SUPA Online Applications

[Skip to Navigation](#)

[Home](#) [Reference Guide](#) [Application Guide](#)

User account

[Create new account](#) **Log in** [Request new password](#)

Username or e-mail address: *

You may login with either your assigned username or your e-mail address.

Password: *

The password field is case sensitive.

[LOG IN](#)

Main Menu

[Home](#)
[Reference Guide](#)
[Application Guide](#)

[Contact Us](#) | [Privacy Policy](#) | [Legal Notices](#)



UNIVERSITY
OF ABERDEEN



UNIVERSITY OF
DUNDEE



UNIVERSITY
of Glasgow



HERIOT
WATT
UNIVERSITY



UNIVERSITY
of St Andrews



THE UNIVERSITY OF
STRATHCLYDE
IN GLASGOW



UNIVERSITY OF THE
WEST OF SCOTLAND
UWS

- Scottish CM-DTC
 - £6M 5 year project
 - 50 studentships
- INSPIRE – KE/PaLS/GS
 - £1.6M 3 year project
 - 12 industrial studentships
- IDC in Optics and Photonics
 - £5M 5 year project
 - 50 studentships



UNIVERSITY OF ABERDEEN



DUNDEE



University of Glasgow



HERIOT WATT UNIVERSITY



University of St Andrews



THE UNIVERSITY OF STRATHCLYDE IN GLASGOW

UNIVERSITY OF THE WEST OF SCOTLAND

UWS

In response to the statement from our International Advisory Board

‘UK students need more formal training in their research areas if they are to be competitive with students from the USA and continental Europe’



UNIVERSITY OF ABERDEEN



UNIVERSITY OF DUNDEE



UNIVERSITY OF GLASGOW



UNIVERSITY OF ST ANDREWS



UNIVERSITY OF STRATHCLYDE IN GLASGOW



UNIVERSITY OF THE WEST OF SCOTLAND UWS

International Review:

‘Overall we believe that the SUPA Graduate School is moving in the right direction to provide a training which is competitive at the World level’

SFC Review:

‘The Graduate School is exceeding expectations’



UNIVERSITY OF ABERDEEN



University of Glasgow



University of St Andrews



THE UNIVERSITY OF STRATHCLYDE IN GLASGOW



UNIVERSITY OF THE WEST OF SCOTLAND UWS



SUPA Graduate School



UNIVERSITY
OF ABERDEEN



UNIVERSITY OF
DUNDEE



University
of Glasgow



University
of St Andrews



THE UNIVERSITY OF
STRATHCLYDE
IN GLASGOW



UNIVERSITY OF THE
WEST OF SCOTLAND
UWS

Avril Manners

Director, SUPA Graduate School

www.supa.ac.uk