Welcome back to Junior Honours at the School of Physics & Astronomy

Prof. Jim Dunlop

Head of School

16th September 2019
Welcome back to the School

Junior Honours - Welcome to the club!

• In the past you have formed part of a wider group, but in JH you are the Physics elite
• JH is the year in which you learn the core physics that forms the keystone of your course
• Our aim is to help you achieve your academic potential and prepare you for the next stage of your career … in academia or outside
• We aim to graduate students who are problem solvers with the physics and mathematics knowledge to address real-world challenges - HESA: 95.5% in employment/study within 6 months of graduation – third in UK
• We will present appropriate material, give feedback on your progress, and assist with explaining difficult concepts
Recent growth

42% increase in academic staff over last 6 years
PhD intake stable, MSc intake rising

Undergraduate student numbers now steady-ish, & at record levels

New students

- 2013 172
- 2014 170
- 2015 177
- 2016 169
- 2017 185
- 2018 187
- 2019 203

You are part of a community of over 1200 staff and students!
Research-led teaching

3 main research institutes

Condensed Matter
ICMS

Astronomy
IfA

Particle & Nuclear Physics
IPNP
Research-led teaching

3 main research institutes

<table>
<thead>
<tr>
<th>Institute</th>
<th>Head</th>
<th>Academic Staff</th>
<th>Research Staff</th>
<th>PhD Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condensed Matter</td>
<td>Malcolm McMahon</td>
<td>27</td>
<td>29</td>
<td>82</td>
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<tr>
<td>ICMS</td>
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<td>Astronomy</td>
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<td>Particle &amp; Nuclear Physics</td>
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<tr>
<td>IPNP</td>
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<td>30</td>
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<td>63</td>
</tr>
</tbody>
</table>

So, a total of ~350 research active staff and post-graduate students

Total school turnover ~£30,000,000 per year.
Research-led teaching

Research Centres

- Higgs Centre for Theoretical Physics (HCTP)
- Higgs Centre for Innovation (HCI)
- Centre for Science in Extreme Conditions (CSEC)
- Edinburgh Complex Fluid Partnership (ECFP)
- UK Centre for Astrobiology
- Centre for Exo-planet Research
- Wide Field Astronomy Unit (WFAU)
How good are we?
How good are we?

International/National rankings

Shanghai Global Ranking - New University rankings published 15th Aug 2019
How good are we?

International/National rankings

We are now 10th, and top in the UK!

<table>
<thead>
<tr>
<th>World Rank</th>
<th>Institution*</th>
<th>Country/Region</th>
<th>Total Score</th>
<th>Score on PUB</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Massachusetts Institute of Technology (MIT)</td>
<td>US</td>
<td>391.2</td>
<td>88.3</td>
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<tr>
<td>2</td>
<td>Stanford University</td>
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<td>The University of Tokyo</td>
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<td>339.4</td>
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<td>259.5</td>
<td>72.9</td>
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</table>
Peter Higgs’s legacy (90th birthday this year)

Peter’s Nobel prize - a triumph for the powerful combination of theoretical prediction + experimental confirmation
Learning

• We are passionate about Physics and want you to share in the excitement that comes from research-led teaching

• You are adults, and we treat you accordingly
  – No roll is taken for lectures or tutorials
  – You don’t have to hand in coursework
    • … and if you don’t then your Personal Tutor (PT) will check if you are alright, but otherwise will leave the decision to you

• BUT, understand the consequences
  – Lectures/tutorials/workshops are a well-proven and highly-effective structure
  – Coursework contributes 20/30% of the overall marks
    • Submitting no coursework effectively raises the pass mark from 40% to 50 - 57%

• It would be a “brave (silly?) decision” to do anything but attend all, and do all
  – Remember, your Junior Honours marks will count to your final degree classification
  – ….and you have to pass Junior Honours to progress to an Honours degree
Feedback ... the two-way street

• We will return your marked scripts within 15 days
  – Except in Experimental Physics, where the moderating takes longer

• We routinely respond to input from:
  – Student-Staff Liaison Committee & Class Reps
    • … can be more nimble than Course Monitoring and address more general
      issues: rooms, catering, computing access …
  – End-of-course and Mid-course surveys
    • All feed directly back to annual review of courses and change, if required
  – External examiners
    • Consistently extremely positive about academic standards, organisation and
      feedback compared to other Russell Group universities

• How else can you give feedback?
  – Speak to the lecturer
  – Talk to your PT
  – Drop a note in the Suggestions Box
  – Have a chat with the Director of Teaching or the Head of School
  – …and the Class/School reps are always keen to receive your views
Making your opinion count

• As senior students, your feedback is invaluable and listened to

• For courses, you can give this at:

  – Course level:
    • Mid-course feedback in each semester – “What’s going well? Is there anything we can change mid-course?”
    • Course enhancement questionnaires at end of each semester – “What did you like about the course?” “How can we enhance it for the next cohort?”

  – School level:
    • SSLC/ class reps – “What is working well? “What other suggestions do you want your class reps to feedback to the School?”

  – University level
    • The National Student Survey – scores and free text comments
A listening School

• Following feedback from SSLC/Student Taskforce etc:
  
  – Refurbished teaching rooms 5235/6/7 & 6301 … no-one wants, eg, to give tutorials in Lecture Theatres
  
  – Fed need for better sports/food/transport into KB masterplan
  
  – Python, now used in Scientific Programming and Computer Modelling
  
  – Student representation at SBoS
  
  – Review of integration between courses completed
  
  – Better co-ordination for hand-in timetable
    
    • See https://www.wiki.ed.ac.uk/display/pastudentinfo/Hand+In+Calendar
School support

- Personal Tutors rated (by you) amongst the best in the University

![Bar graph showing satisfaction with Personal Tutor support by school](image)
School Facilities

• On-going programme to improve teaching and study/social spaces

• … invested £1M+ to
  – Refurbish 2209 into tutorial/laboratory space for pre-honours
  – Move MSc study/social room into higher-quality location (4201)
  – Create a study/social room for Junior Honours (3203)
  – Refurbish 2\textsuperscript{nd} year lab 3201, to same standard as 3301
  – Make new VC teaching room (1301) releasing new teaching space (3207/8)

• Level 4 environment refurbished over last 3 months

• Hope to undertake further redevelopment on level 3 in Summer 2020
  – To include pre-Honours social/study space, classrooms, offices …
Remember – much remains to be discovered....

For example - What is the Universe made of?
- accurate inventory, but what is Dark Matter, what is Dark Energy?
Thank you. Enjoy the coming year.