Welcome back to your final (& best) undergraduate year at the School of Physics & Astronomy

Prof. Jim Dunlop
Head of School

18th September 2019
Welcome back to the School

For the final run in........

• Each of you has already achieved a lot
  - You have mastered the Physics core … and you already effectively have a degree

• … the target now is to make that degree as good as it can be, and to match your interests

• What does that mean?
  - As in Senior Hons you now have the choice to further flavour your degree with options & project
  - We will continue to present appropriate material, give feedback on your progress and assist with explaining difficult concepts. We also aim to inspire with the latest research results/discoveries
  - You are now at the top of the tree, and should be comfortable discussing physics with us to improve your understanding

• 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 aim to help you make the right choices for your future, through presentations and discussions.
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

**Condensed Matter**
ICMS
Head: Malcolm McMahon

![Image of Malcolm McMahon]

- 27 academic
- 29 research
- 82 PhD

**Astronomy**
IfA
Head: Phil Best

![Image of Phil Best]

- 21 academic
- 31 research
- 42 PhD

**Particle & Nuclear Physics**
IPNP
Head: Luigi del Debbio

![Image of Luigi del Debbio]

- 30 academic
- 29 research
- 63 PhD

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>
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<tr>
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<td>Massachusetts Institute of Technology (MIT)</td>
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<td>391.2</td>
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<tr>
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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

• This year you should really reap the benefit of 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
  – You are striving now to achieve the best degree you can
  – Try carefully to balance your Mphys project work with other courses
Feedack - 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 (NSS) – scores and free text comments
      - The National Student Survey runs in every UK university
      - This survey is also used externally, e.g. to help compile league tables
      - It is an opportunity for final-year undergraduates to reflect on the whole experience of your undergraduate degree
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

Figure 1  Personal Tutor 2018-19 for all Schools
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.