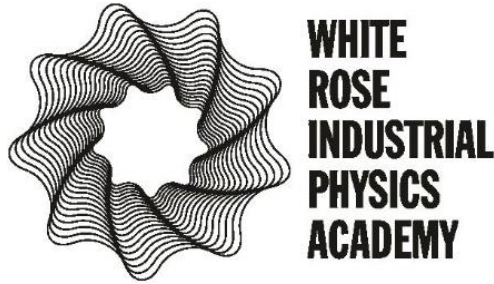


Our Strategy



2023 – 2028

Provide all physics students with the opportunity to gain skills, knowledge and work experience that will better prepare them for graduate-level technical employment, irrespective of where they choose to work.

Where we want to be in 2028

1 - An inclusive physics curriculum that integrates graduate attributes with academic knowledge and skills

2 - Equitable careers support, work-based learning opportunities and graduate level jobs

3 - Employer partnerships that support physics curriculum design, diversity in recruitment and graduate outcomes.

1

An inclusive physics curriculum that integrates graduate attributes with academic knowledge and skills

Context / Challenge

Graduate employers are looking to employ students who are sufficiently self-aware to know how 'translational' their knowledge, skills and experiences are in a range of career contexts. However, these translational 'graduate attributes', embedded within the degree, are often 'hidden' meaning students are not sufficiently aware of them. Employers also want graduates who can solve problems that are not necessarily well-posed or lie in a specific scientific area. Those who recruit physicists often comment that candidates struggle with open-ended questions. This shortcoming may be due to the traditional 'modular' nature of physics degrees, where each assessment only tests students on what they know about one particular topic.

Benefits

Surfacing of Skills: Students who understand the value of their physics degree beyond 'content knowledge', particularly in relation to 'translational skills knowledge' are better prepared for graduate employment markets. Surfacing skills enables students to recognise the 'translational skills' they develop through their physics curriculum. This recognition enables students to confidently articulate and value the 'skills knowledge' of their physics degree.

Synoptic Learning and Assessment: We will take a synoptic view of physics – recognising progression from theory to real world problems. Synoptic assessment requires students to synthesis learning from two or more modules within a degree programme. The assessment may seek to discern the breadth and depth of connections that students have made between topics covered in the programme. Alternatively, it might require students to apply specific skills, knowledge and understanding taught in one part of the programme to other aspects of the discipline. This is particularly valuable to employers as synoptic learning enables students to demonstrate desirable higher order learning behaviours such as the application of knowledge and skills through analysis, synthesis and critical enquiry.

Inclusive Curriculum: interactive learning (not lecturing) encourages the development of skills in addition to discipline (content) knowledge. Active learning can be highly inclusive and enhance sense of belonging by participation of all students in activities including polls, quizzes and group discussions.

2

Equitable careers support, work-based learning opportunities and graduate level jobs

Context / Challenge

Groups of students who share particular characteristics (eg disabled students, from areas of low socioeconomic status, caregivers) show gaps in equality of opportunity in relation to access, progression and success. The Institute of Physics reports there is a higher percentage of students with social communication disorder / autism studying physics, astronomy and mathematics compared to all other subjects. This is problematic as HESA graduate outcomes data suggests graduates disclosing autism were least likely to be in full time employment and were most likely to be unemployed. In addition, there is an emerging picture across WRIPA that physics students who share particular characteristics engage weakly with careers support, curricular work-based learning opportunities and co-curricular activities, including employer recruitment events. At the same time employers realise the importance of reaching a wider talent pool to attract diverse students and graduates into their business.

Benefits

We will address the issues of career inequalities for students and improve access to career opportunities for underrepresented student groups. We want to address the specific needs they have and to empower students to move into their chosen careers. We will introduce students to a broader range of role models to help break down misconceived ideas and stereotypes of physics-related jobs and who can pursue these jobs. The outcome will be better graduate outcomes for all students.

3

Employer partnerships that support physics curriculum design, diversity in recruitment and graduate outcomes

Context / Challenge

Employers want graduates with translational skills and students want to make better informed career choices. Many students struggle to articulate the skills embedded into teaching modules or to link these skills to applications in the world of work and graduate careers. An emphasis on curriculum-based employer interactions also helps overcome the 'self-selection' challenge where students self-select out of co-curricular or 'prestigious' events such as recruitment fairs. This means some students may not have the same level of career awareness or self-efficacy to access professional networks or contacts. At the same time, the frequency of employer interactions is often stymied by the number of staff who'll engage with employers.

Benefits

Curricular employer engagement means our students will experience learning that is integrated with, related to, and/or connected to the world of work. This supports the principle of 'connectedness learning' where students have the knowledge, skills and awareness to align their learning to graduate careers. It is also a means to create equitable access to employers and job opportunities. This approach is reinforced through alumni engagement, which offers several benefits. These benefits include volunteering (eg mentoring), experiential activity (e.g. guest lecturer) or offering internships or work placements. Co-curricular employer activities such as the WRIPA fair will also remain important not only to connect employers to students but to catalyse interaction and raise the profile of WRIPA with employers. Developing diverse employer networks also supports our ambition to connect students to both regional and national employers. We will also work with employers to improve social mobility and diversity in the workplace as talented students from underrepresented groups often face barriers in recruitment processes.