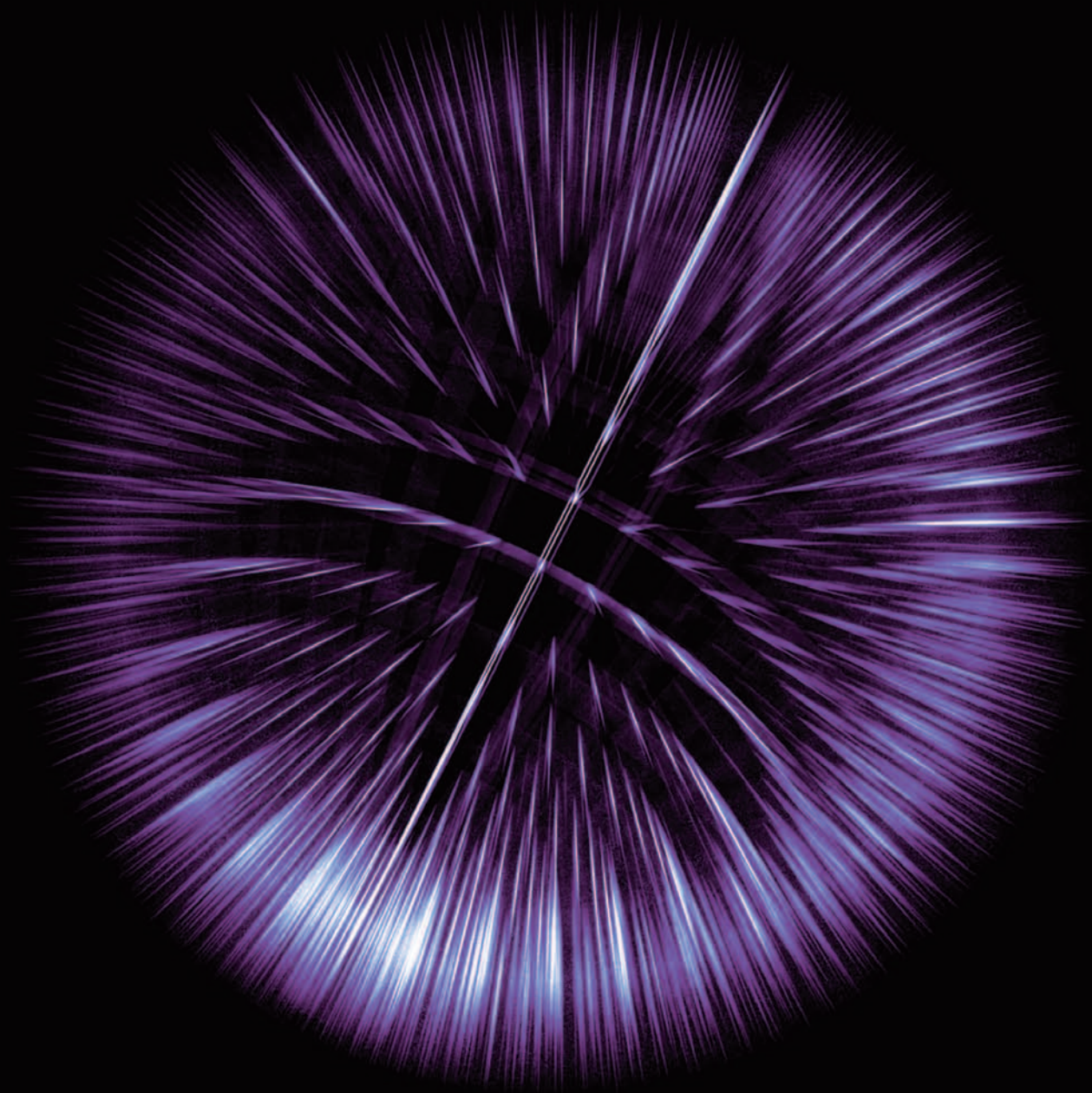


# Evaluation of Project Juno: Final Report



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## Introduction

Project Juno is an award scheme run by the Institute of Physics to recognise and reward physics higher education departments that are making progress in addressing the under-representation of women at all levels in university physics. Project Juno has been running for five years and, at the time of the evaluation exercise, there were 33 physics departments in the UK and Ireland involved in some way. There are three levels of award: Supporter (19 departments fell into this category at the time of the evaluation), Practitioner (eight departments) and Champion (six departments).

In May 2013, the Institute commissioned an independent evaluation of Project Juno to understand the impact that it has had on higher education physics departments that have participated in the scheme. The evaluation involved analysis of both qualitative and quantitative data:

- a review of statistical evidence;
- surveys of staff in Juno and non-Juno departments, of Juno leads in departments and of heads of both Juno and non-Juno departments;
- focus groups with staff and PDRs in five Juno departments.

Sean McWhinnie, of Oxford Research & Policy, was commissioned to carry out the quantitative data analysis and the analysis of the questionnaires. CChange Partnership were commissioned to undertake the focus group element of the evaluation. Both Sean and CChange have written individual reports for the Institute, on which this report is based.

## Evaluation process

### 2.1. Aim of the evaluation

The aim of the evaluation was to help identify whether Project Juno has helped to raise the profile of gender issues in physics higher education departments, to identify any improvements that the institute could make to Project Juno in the future and to enable the Institute to provide better support for departments in any future applications that they may make.

The evaluation sought to address the following key questions:

- Why do departments engage with Juno?
- What is the knowledge, understanding and perception of the Juno principles?
- What difference, if any, has Juno made to departments?
- In what other ways have departments benefited?
- What are the current gaps in the Juno scheme?
- Are there perceived differences between Juno and Athena SWAN?
- What are the factors that enable and inhibit engagement with Juno?

### 2.2. Method

The evaluation was conducted in three stages:

#### Review of the data on physics staff and students

A quantitative analysis of the Higher Education Statistics Agency (HESA) staff, student and destinations of leavers from higher education (DLHE) datasets, and a quantitative analysis of data from the University and College Admissions Service (UCAS) data on applications and acceptances to physics and astronomy degree courses.

#### Surveys of staff in higher education physics departments

Four questionnaires were sent to higher education physics departments:

- A survey of all physics staff, regardless of the level of involvement or non-involvement in Project Juno (all staff survey).

- A survey of Juno leads – i.e. those nominated departmental contacts for Project Juno.
- A survey of heads of departments in Juno-active departments.
- A survey of heads of department in non-Juno departments.

The surveys were distributed via physics departments who had indicated, by way of e-mail to the head of department, that they were willing to participate in the evaluation exercise. The survey for physics staff was distributed to staff in 15 departments (out of 56 in the UK and Ireland). The survey of Juno leads was distributed to 33 named individuals who were the nominated Juno contact for that department. Those for heads of departments were distributed to all UK and Ireland heads of physics departments, with two different surveys for those whose departments were engaged in Juno and those who were not.

#### Focus groups

Focus groups were held with five departments who had engaged with Project Juno at different levels. Departments were initially asked, as part of the staff survey, whether they would be interested in taking part in focus groups with the intention of then selecting a range of those engaging at different levels. Practicalities relating to the delivery timescale and staff availability resulted in groups being held with five departments. Two of the five departments had very recently submitted applications (May 2013), one for Practitioner and one for Champion status; two had submitted for Practitioner in November 2012 and the fifth had already achieved Champion status. To achieve this, the intention was to conduct three focus groups in each department with:

- PDRAs.
- Female staff.
- Members of the Juno Committee or equivalent.

Challenges related to staff availability and the need to gain the views of staff at all levels necessitated some flexibility in the delivery process. The methods used, and participants (anonymised) are summarised in **Appendix A**.



# Findings of the analysis of HESA and UCAS data

Data were analysed for physics cost-centre staff, and physics and astronomy students drawn from the HESA student and destinations of leavers from higher education (DLHE) datasets<sup>1</sup> and student data from the University and College Admissions Service (UCAS)<sup>2</sup>. All data tables are in **Appendix B**.

## 3.1. Staff HESA data

Between 2007/08 and 2011/12 the proportion of permanent academic staff who were female in physics cost centres rose from 11.2% to 15.6%. The proportion of professors who were female rose from 5.4% to 7.0%, senior lecturers/lecturers who were female rose from 14.8% to 20.3% and researchers who were female rose from 17.3% to 19.2%. In 2011/12, there were 325.5 FTE female permanent academic staff and 405.3 FTE female researchers.

Within each Juno status group (Supporter, Practitioner or Champion) there was a great deal of individual variation by department, but overall there was no clear relationship between the Juno status of departments and the proportion of staff who were female (**table 1**).

## 3.2. Student HESA data

For all students, the proportion of female first-degree students essentially remained the same across the time period in question, at between 21% and 22%. Generally, there is no clear pattern of increase or fall in the proportion of female first-year, first-degree students by Juno status of departments (**table 2**).

Data on first-year doctoral students studying physics and/or astronomy are shown in **table 3** (all domiciles) and **table 4** (UK domiciles). From 2005/06 to 2010/11 the proportion of female doctoral students varied between about 22% and 26%, but, as with undergraduate students, there was no clear pattern of increase or decrease in the proportion of female first-year doctoral students by Juno status of department.

Data on the main activities of first-degree physics and astronomy graduates six months

after completing their courses by Juno status of department and gender for 2005/06 to 2010/11 combined are shown in **table 5**. There were no discernible differences in the patterns of main activity by Juno status. The nature of whether the roles undertaken by first-degree physics and astronomy graduates were STEM-related or not are presented in **table 6**. Overall, of those who were in full- or part-time work, women were more likely than men to enter non-STEM roles six months after completing their courses. Once again there were no clear patterns by the Juno status of the graduates' departments.

Overall, there were no clear differences by Juno status of departments between the main activities or in the patterns of employment of first-degree graduates six months after completing their courses. As time goes on and the Juno Project becomes more embedded it might be that the gender differences reduce in the more active departments.

## 3.3. Student UCAS data

The applications to physics and astronomy courses by institution between 2008 and 2012 are shown in **table 7**. Over the five years under consideration, the number of applicants increased by about 9400, from 17,580 to 26,975, an increase of 53%. The proportion of female applicants overall changed little from 20.6% in 2008 to 20.8% in 2012. There was no clear pattern in the proportion of applications from females and there was no obvious correlation between the Juno status of a department and the proportion of applications from females. The total number of acceptances, which are presented in **table 8**, increased from around 3440 to 4555, an increase of 1115, 32%. The proportion of female acceptances varied from year to year and, over the period of time under consideration, fell from 21.3% to 20.8%. Again there was no obvious overall correlation between the Juno status of a department and the proportion of acceptances from females.

<sup>1</sup> For more information about HESA data and its caveats, visit [www.hesa.ac.uk](http://www.hesa.ac.uk).

<sup>2</sup> In the raw data for individual institutions, categories that include fewer than three are suppressed. For the purposes of the analysis, these data are replaced by "1" in each case. Inevitably, this will lead to small inaccuracies in the numbers presented in the tables.

## Findings of the surveys and focus groups

### 4.1. Awareness of Juno

Respondents to the all-staff survey were asked about their awareness of Project Juno. In general, there was a high level of awareness of Juno across all departments, although 23% of respondents in departments who were involved in Juno reported that they were “not sure” if their department was involved in Juno or that they “had never heard” of Project Juno, and 14% of respondents in Juno Champion departments reported one or other of these. Only 11% of staff in non-Juno departments reported that they had never heard of Project Juno, demonstrating that even where departments were not directly involved in Juno, there was still a general level of awareness of the project.

Juno leads and Juno heads of departments were asked how long their department had been involved with Juno. Three departments with Champion status had been involved with Juno for

five years or more, and three Supporter departments had also been involved

with Juno for five years or more. Therefore, while some departments had progressed to Practitioner and Champion status, other departments appeared to have made little progress in terms of successful Juno applications, despite being involved in the Juno Project for a number of years.

In the focus groups, questions about knowledge of Juno and the levels of involvement were asked at the PDRA and women’s focus groups. These questions were not appropriate for Juno Committee members, given their role and remit in the Juno process.

The focus group work found that, at PDRA level, there was widely differing knowledge of Project Juno, even though the focus groups had been self-selecting. In general, PDRAs were unable to give any detail about the scheme’s framework. One participant knew that it was based on five principles, but couldn’t name or describe them.

Where PDRAs had knowledge of Juno, this had been gained through a variety of mechanisms, for example, through their departmental website, departmental newsletter, e-mails containing links to other gender initiatives, conferences and events, and images of women in these media. The visibility of the Juno Champion was also

key, as well as other high-profile female figures in departments. PDRAs in three departments were members of Equality and Diversity or Juno Committees and, as expected, they had much better knowledge of Juno. Of the PDRAs who were not committee members, only one person was able to identify Juno as an Institute of Physics (IOP) scheme.

PDRAs did not express with confidence the level of award that their department held. This lack of involvement was attributed to short-term contracts and their existing full commitments to completing their research and their teaching responsibilities.

In the women-only groups, in three of the five departments, the levels of knowledge were high. All three were able to describe the aim of Juno to increase the numbers of women in physics and knew that it was IOP. However, two departments, both at Practitioner level, thought that the level of awareness was at best patchy and at worst almost non-existent.

### 4.2. Motivations for engaging with Juno

In the surveys, Juno leads and Juno heads were asked who initiated their department’s Juno activities. Some indicated more than one person, but most commonly Juno work was initiated by either the previous or current head of department. 11 out of 18 heads reported that they or a previous head had initiated the work.

There was a range of opinion about the key drivers for involvement with Juno within the focus groups, although clear themes emerged. These included intentions to address the gender imbalance and to develop good practice for everyone in the department, alongside external drivers such as signalling commitment to a range of stakeholders, maintaining reputation and meeting expectations of funding bodies.

All departments, to varying degrees, identified engagement with Juno as a means of indicating their commitment to principles, and practice, of equality and fairness. For one department, who felt that they were already committed to equality, the key reason for engaging was to gain official recognition. PDRAs were more likely to talk about the importance of indicating to potential students that there was no gender bias and one group

“It’s not embedded yet. Large gaps in terms of awareness remain.”



## 4: Findings of the surveys and focus groups

reported that parents often asked at open days about the gender mix. Male PDRAs also identified that they would interpret engagement with Juno as an indicator of good practice more generally.

“When you’re applying for a job, if the department says that it has these awards you feel that you can step up and be freer to ask for something e.g. part-time work. If it proactively supports part-time options it’s a good way to get more talented people – men and women. Once that’s on the table you feel more comfortable about asking about other needs.”

Juno Committees in three departments reported that an aspect of engaging with Juno was to avoid being left behind in a changing external environment that recognised the need to do something about the gender imbalance. Groups in several departments identified gaining the award or the badge as a motivation, with some women identifying this as more likely to be a driver for male colleagues and a danger that it would be regarded as box-ticking or getting the badge.

Groups in all departments identified moves by funding bodies to require departments to demonstrate a commitment to gender equality as a key driver for departments to engage with Juno (or Athena SWAN). Each of the departments consulted had begun their engagement prior to these moves, hence it had not been their initial motivation. However, participants in all departments commented that the changing external environment, particularly regarding funding, would leave departments little choice but to gain public recognition of their commitment to gender equality.

PDRAs were more likely to speak of the importance of positive female role models and the need to signal to potential students that there was no bias. They emphasised that younger people particularly expect this and it was noticeable that young men in different groups spoke of the improved atmosphere in a mixed gender group: it makes a big difference to social relations; to how you behave as a group.

All committees identified that the Juno process provided a route to developing good practice and an organisational culture that would benefit both male and female staff.

“The embedding of existing good practice was a key point of motivation particularly at a point of rapid growth; that a positive culture is maintained and is not dependent on existing staff in post.”

Women in all departments also identified that

good practice identified in the Juno principles would lead to a more positive working culture for men as well as women. This was used as a strategy to pre-empt potential resistance or as a better sell when there are so few women here.

### 4.3. Data collection

Data collection and disaggregation by gender underpins the Juno process, so staff in the surveys were asked about their knowledge of data collection within the department.

Overall only one-third of staff respondents knew that both staff and student data were collected and monitored and, even in Champion departments, this only rose to 43% overall. As would be expected given the requirements of Project Juno, leads in all four Champion status departments and in all six Practitioner status departments reported that staff data are collected and monitored.

Similarly, in the focus groups, the benefits of data collection were most noticeable in the Champion departments.

“It is noticeable that most committees are informed by Juno.

All data are gender disaggregated and discussed e.g.

admissions, recruitment, seminar speakers, outreach, everything. When anything is discussed gender is part of it, including the refurbishment of the building.”

Although universally cited as being extremely difficult due to the centralised nature of universities’ HR functions, the focus groups expressed that Juno gave departments the impetus, confidence and reason to request the data they needed for the applications. The data were then used to identify areas where interventions were needed. Across all departments, the systems were now in place for data collection and are all used on a regular basis. One department in their request for a rigorous data-collection platform ended up with a system being implemented across the whole university.

### 4.4. Discussion of gender equality in committees

When asked in the survey, just under half of all staff respondents (47%) thought that gender equality was discussed in departmental committees, although more than 90% of respondents in Juno Champion and Practitioners

“ When colleagues ask, I emphasise the general good practice.

## 4: Findings of the surveys and focus groups

departments stated that gender equality was discussed regularly. All of the Juno leads in the Champion departments reported that gender equality was discussed at all staff meetings, but only six out of 17 leads overall reported that it was discussed regularly by the senior management team. When heads of departments were asked this question, 18 out of 20 heads reported that gender equality was discussed regularly, eight reported that it was discussed in the senior management team regularly and nine out of 20 heads reported that it was regularly discussed at all staff departmental meetings. The majority of all respondents across the categories (staff, leads, head) said that it was not widely discussed regularly by committees other than those committees specifically charged with diversity responsibilities.

The focus groups highlighted the benefits of creating a formal structure such as a committee that was responsible for the Juno application as key in ensuring that commitment became actions. Two departments set up Equality Committees as

a direct result of their involvement with Juno. These committees oversaw the

application process and were seen as embedding the drive towards implementing good gender equality practice. By having a standing committee, with a clear remit, this went some way to preventing any difficulties that having a new, less-supportive, head of department could bring. This embedding of the Juno structure was also commented on by one recent Champion department where the Juno committee will cease and will become the Equality and Diversity Committee so will operate not just in the context of an award.

### 4.5. Perceived benefits and changes arising from Juno

All of the surveys asked various questions around the benefits of Project Juno. In the “all staff” survey, respondents were asked to select up to three benefits from a prescribed list; of the 107 respondents who answered the question, 31 chose three or more benefits, 18 two benefits, and 59 a single benefit. The most frequently selected benefits were an increase in overall visibility of women in the department (41%), better working practices for all staff (37%), better recruitment

practices for all staff (34%) and better promotions practices for all staff (21%). There were no clear differences between the staff in different Juno status departments.

Juno leads were asked, via a free-text box, to specify the most beneficial change in their department as a result of Project Juno. Many different reasons were given, including awareness of staff and senior management in women in STEM issues, discussion on gender issues within the department and visibility of female staff.

Heads were asked to specify, first, the most beneficial change for them as head of department from being involved in Juno and, second, the most beneficial change for their staff. They were also given a free-text box to do this. Heads outlined a range of benefits, but the overarching theme was that Juno has provided a vehicle to raise awareness and improved working practices. In respect of the benefits for staff, heads suggested that changes demonstrated to staff a more caring and inclusive atmosphere. A small number of heads felt that it was too early to identify any specific benefits yet.

In the focus groups, three departments articulated clearly that Juno had brought substantial improvement in awareness of gender-equality issues and the benefits of having more women in the department. It was stated that both men and women were now “having these conversations”. Committee members in particular felt that awareness had been improved throughout their departments. Women generally, across all departments, noted that gender-equality concerns were now discussed more readily, particularly by those who had been working in academic physics for many years. The majority of PDRAs had rather low levels of awareness, but there were some notable exceptions who had been directly involved in the submission process as members of the relevant committees.

Juno was viewed by all five departments as a vehicle to communicate to external stakeholders that a commitment had been made to eliminate prejudice. Not only does having a Juno award send out a message about good practice within the department, but it was also seen as the right thing to do. This was strongly expressed by one PDRA group in particular. At a department that was undertaking both Juno and Athena applications at the same time, the process highlighted that the voice of PDRAs was not being heard and led directly to the setting up of the Research Staff

“ It’s a conscience. The head of the committee will say “Have you done this?” There’s someone looking at it.

## 4: Findings of the surveys and focus groups

Forum. Another department had also set up a postdoctoral forum as part of their Juno action plan and this had led to improvements in the PDRA's induction process.

All departments had revised their recruitment literature, web pages and open-day material to ensure that more women were visible. Women ambassadors were prominent on open days to show prospective students around. Two departments said that they had put a lot of work into this due to Juno. Two others asserted that this good practice had already existed, but that Juno had focused efforts more closely on it.

For the recruitment of academic staff, two departments said that wording on job advertisements had been changed to encourage applications from women. One Practitioner department was still trying to get their university to put this in place. Another department said that Juno had enabled them to request headhunting and shortlisting statistics from central HR functions and was helping them to overcome the resistance that they were still facing.

Other specific examples of beneficial change included a student diversity event, talks on gendered aspects of research, mandatory diversity training for new staff, equality and diversity training for chairs of recruitment panels, and training for all new managers. More practical changes included: changing performance reviews to being conducted only by the head of department, introducing promotions workshops, introducing more formal flexible working, and introducing a mentoring scheme for PDRAs. And finally, as part of the Juno and Athena application process, a department had installed a breastfeeding room, after much opposition.

### 4.6. Improving the representation and visibility of women

Seven out of 22 leads and eight out of 17 heads believed that there had been a noticeable difference in the overall visibility of women since their department had been involved in Juno, including three out of four heads of Juno Champion departments. Most other respondents said that it was too early to tell.

The most commonly selected reason for the noticeable difference by both heads and leads was “increase in the number of female academic appointments”. The second most selected reason by heads was “increase in the number of female academics securing promotion” and by leads it

was “increase in the number of female seminar speakers”.

In the focus groups, four departments said that they had seen an increase in female academic staff, but there was uncertainty about whether it could be claimed as a direct causal link with Juno. It was felt that it was more to do with the effects of raising awareness and the development of good practice within departments. One department, after a gap of many years, had recently seen a four-fold increase in the number of female staff due to a re-structuring, which had enhanced the visibility of women within the department. Another department had appointed two female professors, but again felt it was unclear if this was related to Juno.

Since engaging with the Juno process, one department had seen an increase in female undergraduate numbers and, they believed, a related increase in masters students. The atmosphere in some laboratories was described as good with female students and staff “popping in”.

In the focus group, it was noted that a difference was felt in a Champion department where there had been the appointment of women in key senior roles. This gave a very visible message of equality and that promotion is available to both genders. This was noted at PDRA level.

Where research groups had been able to increase their number of female PDRAs, particularly within astronomy, this had a positive impact on new members joining the group.

All five departments had considered female career progression as part of their Juno action plans. New actions that had been implemented included workshops on the promotion process, interview skills particularly aimed at PDRAs and improving the appraisal process.

“We have lost a number of very talented people and don't want to keep doing that. Two or three female members left and have built successful academic careers elsewhere, which they could have had here.” “Juno has had a huge impact: our promotion

“ It gave us proper representation and helped us as researchers to feel more valued, that our voices can be heard.

“ You can see the promotion level, it's very obvious. It gives a message of equality, just feels good, that women can do it based on capability, that promotion is open to any gender, if you're good you can be there.

## 4: Findings of the surveys and focus groups

panels now have to have a female panel member; we make statements about positively welcoming applications from women; and if we are recruiting we try to advertise more than one vacancy at a time because single positions are largely filled by men.”

### 4.7. Improving departmental culture for all

All respondents to the staff survey were asked to rate a number of practices in their department. The results are presented in **table 9**, in **Appendix C**. Although the numbers of respondents are too small to draw firm conclusions, overall, respondents in Juno Champion departments rated the departmental practice more highly than respondents from Juno Supporter departments and non-Juno departments.

The biggest difference in the rating of departmental practices between Champion status departments and Supporter departments (as assessed by comparing the sum of the proportions for excellent and good ratings) were found for the appraisal system for academic staff, the appraisal system for postdoctoral staff, the arrangements for staff cover during career breaks, sabbaticals and/or maternity leave, and the guidance for all potential applicants for promotion.

Across all focus groups, it was noted that there had been a beneficial impact on the culture of the department. This included creating a positive work environment to encourage people to stay, helping to attract the best people to work in the department and seeking to get equality and diversity awareness embedded at all levels.

“It has beneficial effects on our culture – an ongoing process and culture of monitoring change.”

### 4.8. The longer-term impact of Juno

Overall, 38% of respondents to the staff survey (48% in Champion departments) believed that Juno has had a lasting effect in their department, but 58% (35% in Champion departments) believed that it was too early to tell. 12 out of 23 leads and 12 out of 21 heads felt that it was too early to tell, but eight leads (including three out of four from Juno Champion departments) and nine heads (also including three out of four from Juno Champion departments), felt that there had been a lasting impact.

In all focus groups, the results of Juno were expected to be seen in the long term with the appointment of more junior women creating a more gender-balanced department and that having the infrastructures of equality committees and staff forums in place will help this happen. All three Practitioner departments knew that further changes were needed to address the numbers of women working in their department, and within their research groups in particular. One member of a women-only focus group was more negative and thought that Juno would not impact on how research groups are run and only by threatening their research funding would their behaviours start to change.

### 4.9. The main challenges to Juno

Juno leads and heads were asked what they thought were the most significant challenges in taking forward Juno in their departments.

15 out of 21 of the leads and 12 out of 23 heads indicated that the most significant challenge was a lack of time to carry out the work. The next most frequently cited challenge by leads, was a lack of administrative support. Lack of time was cited by all four leads from Champion departments.

As part of the focus groups, all departments noted the extent of the time and resources required to engage with the Juno scheme, particularly in the early stages. Several departments identified the commitment of the head of department, and hence agreement to allocate resources, as instrumental in its success.

“You need the head of department with you for resource, space – both physical and intellectual. Head of departments have a lot of power, but hopefully the framework does embed the practice so a change to a less-supportive head of department should have less impact now.”

Recognition for work was also a significant challenge. In the surveys, leads were asked whether they had been recognised by their department in some way for their work on Project Juno. Only four out of 21 leads reported that they had not been recognised for their work on Project Juno, although five of the other 17 were not sure. 10 leads indicated that their work was taken into account in their department’s workload-allocation model, six reported that their profile had risen within their department and five that they had used their Juno work in making a case for promotion.

12 heads (out of 20) also reported that Juno



## 4: Findings of the surveys and focus groups

work was included in the department's workload-allocation model. Eight heads reported that the Juno leads' profiles had been raised. Five heads reported that the Juno leads' work was not recognised and six heads reported that they were not sure how the work is recognised.

Through the focus groups, three departments specifically acknowledged that the majority of the work of the Juno process fell on either one woman (in two instances) or a few women to drive it forward. One described how the key female driver had lost ground in terms of her own career progression because of the amount of time and effort put into the Juno process. For another, this had had a detrimental impact on her health due to the workload and the level of resistance encountered.

"I'm aware that women are overly burdened by the Athena SWAN/Juno administration. This leads to worries that it's an awful lot of women doing this; that women are taking on the nurturing role for changing the departments but this doesn't in turn lead into or create permanent roles for them." (Male head of department)

Some women had made a decision not to get involved with Juno because they did not want to get "tarred with that brush" or because they doubted that there was sufficient commitment to deliver lasting change. Another female academic described being bullied into the Juno role and several male and female academics commented that womens' careers had been adversely affected because of the time dedicated to Juno. The emotional impact of the process was discussed by one Juno Committee.

One of the womens' groups suggested that the make-up of the Juno Committee should be considered by the IOP as part of the Juno process to ensure a reasonable gender break-down and involvement of senior staff members.

Finally, what the "badge" actually meant was questioned by two departments and the impact this would have, particularly on undergraduate recruitment. The term "badge" was used by one institution to imply that not all departments would share the same motivation to effect cultural change and would be using the Juno Award merely as a trophy.

"There's a sense that the university is no more committed to Juno than to other initiatives – REF dominates everything."

### 4.10. Value: the worth of the Juno Award

Generally the focus groups highlighted that Juno, delivered by IOP, was valued as a scheme that understands and relates to a physics-specific context that compares "like with like". As an IOP and departmental scheme, Juno was seen to have credibility and influence to effect change within the department. The opportunity for IOP to showcase good practice and to promote learning between departments was valued. However, there appeared to be room for further development in this area. For some people, it was important that their professional body was taking action to promote equality.

"I find it easier to push an IOP scheme. We trust it; we are Fellows of IOP."

Four of the Juno Committees said that they would recommend other departments engaging with Juno, the fifth felt that it was not for them to make recommendations to other departments.

There was comment from two departments that they felt that IOP as an institute did not fully promote the Juno Project within its own membership and should take more opportunity to do so, e.g. at annual meetings.

“It's ironic that it's almost built into the process that this work falls disproportionately on women.

“Juno is subject-specific. It gives it strength.

### 4.11. Suggestions for improvements to the scheme

Groups generally felt that the scheme principles covered the key attributes and did not need amending, but that further clarity on how to evidence these would be helpful. Two departments suggested that Juno could require departments to demonstrate how they are taking positive action to increase the participation of women, for example, steps taken to identify women applicants for posts. Other suggestions were to require evidence of how each research group was promoting equality, and to request data on ethnicity and evidence of actions to increase participation of minority ethnic women.

Each of the committee groups discussed, to different degrees, the extent to which Juno could be engaged with as a box-ticking exercise. There was agreement that it was important that the scheme was rigorous and testing, and most groups felt that Juno was genuinely seeking to

## 4: Findings of the surveys and focus groups

promote change and did not simply aim to provide a route to a “badge”. Recent moves by funding bodies to seek evidence of gender-equality good practice was viewed positively if rigour was maintained. Participants in several different departments felt that the link to funding was a key way, perhaps the only way, to engage some staff.

“For those who just want the badge, do they just pay lip service? Does it really reflect the culture? I’m actually quite impressed that we failed, actually really impressed, you don’t just fill in a form and put it on your website. It’s got to be difficult, and be scrutinised properly.”

The clarity of guidance was raised by each of the committee groups, with various members identifying that they were unsure of what was required at both Practitioner and Champion level.

The guidance and instructions needs to be clearer, more explicit, less vague. IOP says that we can ask but we don’t know what questions to ask.

Several departments commented on difficulties

with knowing how to evidence good practice and how to use statistics meaningfully when the numbers of women

were extremely small. Participants in different departments suggested that it would be useful if successful applications were made public to enable learning.

“It would be good to see what is required to meet the evaluation points. Perhaps we could see other people’s applications – even if anonymised to see what works in that particular section.”

Even though each Committee identified ways in which the process could be improved, there was an overall sense that people accepted that engagement in any such scheme, and its consequent commitment to creating lasting change, would require rigorous data collection and investment of time and resources. Each of the departments also identified the process itself of gathering data, analysing results and identifying actions as a key benefit of the scheme.

### 4.12. Support from IOP

In the survey, leads were asked their views of the support for Project Juno provided by IOP. On the whole, across all areas, most leads either thought that support was about right, or they were

not aware of specific support. Small numbers of leads felt that there was too little support in a number of areas; no leads felt that there was too much support in any area. Leads feel that overall support from IOP for Project Juno was at an appropriate level, however, communication of the details of support needed to be improved.

Each committee group described useful support gained from the Institute prior to applying and helpful feedback gained on drafts and submissions. One department commented that this support had improved over the course of the scheme. Visits were particularly valued for their constructive approach, useful feedback, guidance, knowledgeable staff and a sense that people were being helped to improve practice.

“It [the visit] was very helpful and it felt like we were being helped towards something, rather than an examination.”

“The most positive thing about the Champion process was the visit, but we had already done a draft by then. It would be good to have two visits – one at the beginning and one after the draft. The people were good; there was an open conversation rather than feeling like a test. It didn’t feel like part of the decision. They pointed out our weaknesses and it strengthened our application.”

Several departments were unclear about exactly what support could be accessed. Some wondered whether they could request a visit or ask for an early draft submission to be reviewed, and others felt that Juno could be promoted more at IOP workshops. One department commented that given that Juno is subject-specific they expected more explicit guidance and support from IOP. They explained that their Athena SWAN office was prodding them to draft an application and providing them with updates and comparisons with other departments, and that IOP could do more to promote Juno. This influenced their decision regarding pursuing Juno further.

“How do I decide which proposal to write next? Juno or Athena SWAN? A key factor would be support. My tendency is to go for SWAN because I have university support.”

Another department suggested that a template with national average data, provided by IOP, would be very helpful.

“It’s worth the hard work. It lets you see the holes and why they are happening.”



### 4.13. Engagement with Athena SWAN

When staff-survey respondents were asked about their department's and their university's involvement with Athena SWAN, there was a variety of opinions as to an individual department's engagement, highlighting a general lack of awareness about Athena SWAN. There was no clear relationship between, for example, those respondents who had not heard of Juno and had not heard of Athena SWAN, or were not sure of their department's involvement with Juno and were not sure of their department's involvement in Athena SWAN. However, a higher number of staff-survey respondents reported never having heard of Athena SWAN (38) than Juno (22) (refer to **table 10**, in **Appendix D**).

When Juno leads and heads of departments were asked about their department's involvement in Athena SWAN, there was again some confusion about the level of involvement at the university and departmental levels, with four heads (out of 22) reporting that they were not sure of their university's Athena SWAN status.

In the focus groups, of the two departments that held both Juno and Athena awards, participants had greater awareness of Athena SWAN. One department, who had an Athena SWAN award, had engaged with Athena SWAN first and felt that Juno went hand in hand with this. However, they found that applying for two awards with similar content but different formats required twice as much work for the same thing. The other department had initially engaged with Athena SWAN when it was starting, but found the changing processes frustrating. When Juno started they felt it was more natural to do that first and they found the process of then gaining an Athena SWAN award straightforward: since we already had Juno Champion status we just had to write a letter and re-cast some stuff in a slightly different way for Athena silver.

Both committees noted the kudos to be gained from attaining an Athena SWAN gold award, which they noted did not have a comparable Juno level.

"We're a long way away from Athena SWAN gold. We can say that we've got the top rating from Juno, but we're nowhere near getting the top rating from Athena SWAN."

There were mixed views on how Athena SWAN and Juno operate in relation to each other. In general it was felt that the schemes had different strengths and different spheres of influence, and hence were complementary. The key issues

raised were related to ensuring that there was co-ordination between the levels and application processes to minimise duplication and maximise learning.

PDRAs in the two departments with an Athena SWAN award, and participants across all groups in the other three departments, demonstrated a lack of understanding about Athena SWAN and its relationship with Juno. Women were more likely to know of Athena SWAN but were also largely unsure about its detail. It was generally understood that Athena SWAN was a university-wide scheme and there was agreement that it had a higher profile than Juno across the university sector and beyond.

Many PDRAs were unable to articulate any differences between Juno and Athena SWAN; participants in other groups offered a range of ideas. Many people thought that Athena SWAN focused on general good practice for all staff and a few thought that it included emphasis on BME representation. Some thought that Juno was more aspirational and that Athena SWAN focused more on evidencing existing good practice; others thought the reverse. While most knew that Athena SWAN was a university-wide scheme many were not aware that departments could gain awards and did not think that Athena SWAN had as much influence at a department level.

"Athena SWAN is important for different reasons. The university has an Athena SWAN working group where we can meet with other colleagues. The cross-disciplinary approach is quite interesting because you can share good practice of what other science departments are doing. You feel like you're not on your own. There's only one physics department here!"

One department raised the question of how they retain the Juno identity within a university that places more emphasis on Athena SWAN. All departments mentioned moves to link funding to the attainment of Athena SWAN awards and some participants questioned whether this made Juno redundant. Some participants suggested that consideration could be given to Juno becoming a part of Athena SWAN, however, overall, all committees felt that Juno brought specific benefits.

The IOP "brand" is recognised and trusted, hence Juno is recognised as a mark of

“Everyone in the department knows of Juno. We can use it as a stick in the department to get things to happen. Athena SWAN may not do this.”

## 4: Findings of the surveys and focus groups

“quality”. The perceived rigour of the scheme and maintenance of high standards enables departments to believe that it genuinely assesses quality and hence provides a meaningful assessment. IOP was generally regarded as having higher status than the Equality Challenge Unit.

“It’s not important to differentiate between Athena SWAN and Juno, but it is to retain IOP status. When we see groups of departments going in together for Athena SWAN, can it be doing its job?”

“Juno has value for our stakeholders, students and postdocs. It’s endorsed by IOP and they are a trusted brand.”

### 4.14. Departments not engaged in Juno

A survey was sent to a number of heads of physics departments who were not involved in Project Juno. Eight heads (out of 21) responded to the survey. Respondents were asked about women in science-related activities in their departments.

Six of the eight heads reported that they were considering joining Project Juno, and

four that they were working towards an Athena SWAN award. In addition three heads reported that their department had a nominated person for women in science initiatives. One of the departments surveyed already had an Athena SWAN silver award. The reason for this was that it

was university policy for all STEM departments to participate in SWAN and the work was initiated by someone from outside the department. Two heads reported that gender equality was discussed by committees or groups in their department as a regular agenda item. On the whole, regular discussion of gender equality was confined to Athena SWAN/diversity committees.

Heads were asked to indicate what they felt were the main benefits of being involved in women in science activities by selecting up to three potential benefits. Relatively few benefits were indicated, and those that were were all confined to the effects on women – increase in overall visibility of women in the department (five agree), increase in the numbers of applications or appointments for promotions of women (four agree), increase in the promotions of female staff (two agree). This is despite the fact that four heads reported that their departments were working towards Athena SWAN awards. As things stand, it seems that heads of physics departments not involved in Project Juno see few benefits in women in science activities.

Heads were also asked to indicate what they felt were the main challenges in taking forward women in science activities in their departments. Heads selected relatively few challenges, although five did select a lack of time to carry out the work, which is in line with the responses given by Project Juno leads and heads of Juno-active departments.



**Athena SWAN activities are organised at a school (not departmental) level. Our school has silver status.**

## Conclusions and recommendations

### 5.1. Main conclusions and recommendations

It is clear from all of the evidence presented from the surveys and focus group work that Project Juno is clearly acting as a driver for change, and concrete examples of changes in policy and practice have been articulated, with associated benefits to working environment and culture. The impact of addressing the under-representation of women in physics is a long-term goal and it is not possible to demonstrate direct causal links from Juno to any small increase in the numbers of women in some departments.

#### Recommendation 1

We recommend that IOP continues to invest in Project Juno as an effective vehicle for engaging physics departments and a catalyst for culture change within physics departments around the under-representation of women in physics.

There are a number of departments who have not progressed further in the scheme, despite having been involved for several years.

#### Recommendation 2

We recommend that consideration should be given to encouraging departments who have been involved in Project Juno without moving to Practitioner or Champion status to put in place plans and resources to apply for recognition awards.

While there was generally a good level of awareness about Project Juno in departments, more needs to be done to ensure that there is evidence that all staff are at least aware of the work that a department is doing for its Project Juno recognition. This does not just include a general level of awareness about the project but also the data collection and analysis that is taking place, as well as the discussion of gender-equality issues in committees outside of that tasked with taking forward work on Juno/Athena SWAN or equality more generally. The engagement of PDRAs is particularly key in this work.

#### Recommendation 3

We recommend that IOP requires a breakdown of the Juno Committee by gender and seniority, and demonstrates the involvement of key heads of

research groups and PDRAs as part of a Champion application, or Champion renewal.

Examination of data on how staff rated working practices showed that staff in Juno Champion departments tended to rate working practices more highly than staff in Juno Supporter and non-Juno departments. Juno Project leads identified increases in awareness and discussion of women in physics/STEM issues, especially by senior management, as the most beneficial changes due to involvement with Project Juno.

This good practice needs to be celebrated and shared. Departments felt that more opportunities should be taken to promote the scheme and its good practice.

#### Recommendation 4

We recommend that IOP increases the profile of Project Juno to all of its members, and promotes IOP events (not just those concerned with equality) as appropriate.

There was agreement among all that the most significant challenge faced in taking forward Project Juno is a lack of time. This accords with the fact that departments appear to have made little progress in terms of successful Juno applications despite being involved for a number of years. Recognition for work was also a significant challenge, particularly as it has been acknowledged that this work falls disproportionately on females.

#### Recommendation 5

We recommend that IOP considers how to ensure that an individual's work on Juno is recognised by departments as part of their Juno application.

Departments, particularly when moving from Supporter to Practitioner, often met resistance from different areas of their institution, from heads of research groups and heads of departments to institutional senior management. Departments need support to overcome this resistance.

#### Recommendation 6

We recommend that Project Juno provides evidence, good practice and ongoing support to Juno Champions, committees and others to enable them to overcome this resistance.

Generally the focus groups highlighted that

## 5: Conclusions and recommendations

Juno, delivered by IOP, was valued as a scheme that understands and relates to a physics-specific context that compares “like with like”.

Departments welcomed the support from IOP for their Juno applications and site visits were seen as being of particular value. Clarification of guidance on the presentation and interpretation of evidence for the applications would be welcomed.

### **Recommendation 7**

We recommend that IOP takes on board the operational recommendations listed below, to make beneficial changes to the scheme.

### **Recommendation 8**

We recommend that Project Juno re-articulates, clarifies and improves their support offer and guidance, and continues to resource this important element of the scheme.

The IOP “brand” was known and trusted by all of the physics departments that participated in this evaluation, and Project Juno garnered value and quality because of this associated prestige.

### **Recommendation 9**

We recommend that consideration be given to building on this recognition and developing the Juno brand, in particular with universities themselves and funding bodies.

The Athena SWAN Charter has wide recognition outside of the departments and there is evidence that institutions are taking it seriously and committing their own resources to increasing numbers of Athena SWAN submissions. Departments are under pressure from their institutions to gain an Athena SWAN award. There is some confusion over the aims, objectives and scope of the two award schemes.

### **Recommendation 10**

We recommend that improved links between the two schemes be explored to reduce duplication and increase complementarity.

Athena SWAN is recognised by departments as the benchmark for gender-equality best practice.

### **Recommendation 11**

We recommend that IOP supports physics departments in their aspirations and actions to achieve Athena SWAN gold.

The recent Research Council move towards

a requirement for departments to be working towards an Athena SWAN award was widely known. However, a similar pronouncement about Juno was not mentioned.

### **Recommendation 12**

We recommend that IOP communicates the status of Juno with regard to research council funding to their physics department and for IOP to continue to liaise with the research councils themselves to gain further recognition of the Juno award.

## **5.2. Operational recommendations from departments**

### **Juno process**

- Review scheme guidance to improve clarity; include examples of evidence required and provide more good practice examples.
- Include review of HR procedures and how they are implemented within the department. Request examples of positive action.

### **IOP support**

- Offer more site visits – one at Practitioner level and one for preparation for Champion level.
- Share applications between departments, anonymised, if appropriate.
- Provide data on national trends against which departments can benchmark themselves.
- IOP should be more proactive in following up and encouraging applications.
- Have application feedback by phone as well as written feedback.
- Scope to share good practice between Juno departments – continue to run personal invitation. Consult departments on mechanisms to share good practice.
- Publicise case studies from departments of Juno impact.

### **Other**

- Inform departments of the position of Juno as evidence for funding bodies.
- Explain the links, complementarity and fast-tracking between Juno and Athena SWAN.
- Review guidance and processes to better co-ordinate between Juno and Athena SWAN applications to minimise duplication and maximise learning.

## Appendix A: Anonymised methods and participants in the five focus groups held in physics departments

Juno level	Athena SWAN	Groups	Participants	
			Female	Male
Practitioner	University Bronze Award	Early career: 1 PDR	1	
		Female staff: 2 senior lecturers	2	
		Juno Committee: 4 1 professor (Chair) 1 p/t lecturer 1 development manager 1 computer manager	2	2
Champion	Departmental Silver Award	Early career: 3: PDRs, 1 PhD student	1	2
		Female staff: 2: 1 professor, 1 reader	2	
		Juno Committee: 2: 2 professors, including HoD	1	1
Practitioner	Departmental Bronze Award	Early career: 7: 5 PDRAs, 2 PhD students	1	6
		Female staff: 7 1 professor, 1 lecturer, 2 PDRs, 2 PhD students, 1 support staff	7	
		Juno Committee: 5 1 professor (HoD), 1 reader, 2 PDRs 1 department manager	3	2
Supporter	University Bronze Award	Early career: 4 4 PDRs	2	2
		Female staff: 5 1 professor, 1 reader, 2 lecturers, 1 PDR	5	
		Juno Committee: 3 1 professor (HoD), 1 manager, 1 reader	1	2
Practitioner	University Bronze Award	Focus Group 1 (mixed): 7 2 readers 5 lecturers	1	6
		Focus Group 2 (mixed): 6 1 professor, 1 reader, 1 lecturer, 1 outreach manager, 1 PDRA, 1 PhD student	2	4

*Note re terminology: the report will use the terms “committee members” for both Juno Committee/E&D Committee members, women for women only and PDRAs to refer to contributions from these constituents either in the dedicated focus groups, groups comprising a mix of all staff/PDRAs or individual interviews.*



## Appendix B: HESA and UCAS analysis data tables

**Table 1:** The proportion of staff in the physics cost centre who were female in 2007/08 and 2011/12 by Juno status of institution

Department	2007/08						2011/12						Difference between 2007/08 and 2011/12					
	Professors (%F)	Senior Lecturer/ Lecturers (%F)	Senior Lecturers (%F)	Lecturers (%F)	Permanent Academic Staff (%F)	Researchers (%F)	Professors (%F)	Senior Lecturer/ Lecturers (%F)	Permanent Academic Staff (%F)	Researchers (%F)	FTE Permanent Academic staff	FTE Female Permanent Academic Staff	FTE Researchers	FTE Female Researchers	Professors (%F)	Senior Lecturer/ Lecturers (%F)	Permanent Academic Staff (%F)	Researchers (%F)
Champions	7.5	13.8	7.1	22.2	10.5	15.9	7.9	14.1	11.1	16.5	381.4	42.5	545.5	90.0	0.4	1.0	0.7	1.0
Practitioners	6.5	19.6	18.2	21.4	14.3	19.9	7.9	22.2	17.3	21.5	474.7	82.0	524.9	112.9	1.4	2.6	3.0	1.6
Supporters	4.2	13.9	8.8	21.9	10.4	17.3	5.9	19.6	14.4	20.0	786.0	113.1	823.9	164.7	1.7	5.7	4.0	2.6
Non-Juno	3.9	13.9	13.6	14.2	10.6	15.6	7.4	22.7	19.2	17.0	20.5	5.5	3.4	1.6	3.5	8.8	8.6	1.3
Total	5.4	14.8	11.2	19.8	11.2	17.3	7.0	20.3	15.6	19.2	2092.0	325.5	2110.6	405.3	1.6	5.5	4.4	1.9

**Table 2:** First-year first-degree students studying physics and/or astronomy courses between 2005/06 and 2010/11 (UK domicile only)

Department	2005/06		2006/07		2007/08		2008/09		2009/10		2010/11		Difference	
	%F	Total	%F	Total	%F	Total	%F	Total	%F	Total	%F	Total	%F	Total
Champions	21.9%	595	18.3%	565	19.7%	835	21.4%	680	23.4%	680	21.5%	740	-0.4%	145
Practitioners	18.5%	1165	24.4%	1755	23.5%	1675	20.9%	2000	22.4%	2170	20.6%	1330	2.1%	170
Supporters	23.1%	1305	20.8%	1280	20.0%	1330	21.4%	1455	20.1%	1510	20.0%	1550	-3.1%	250
Non-Juno	17.6%	670	16.0%	665	16.5%	795	17.8%	855	18.5%	895	20.5%	990	3.0%	315
Total	20.5%	3735	21.2%	4270	20.7%	4435	20.6%	4080	21.2%	5255	20.5%	4615	0.1%	880

Institutions with a total of 10 students or fewer in every year under consideration have not been displayed, although their figures are included in the overall totals.

**Table 31:** First-year doctoral students studying physics and/or astronomy between 2005/06 and 2010/11 (all domiciles)

Department	2005/06		2006/07		2007/08		2008/09		2009/10		2010/11		Difference	
	%F	Total	%F	Total	%F	Total	%F	Total	%F	Total	%F	Total	%F	Total
Champions	26.0%	145	18.8%	170	23.4%	240	20.7%	295	18.8%	315	21.8%	330	-4.2%	155
Practitioners	23.9%	90	27.0%	120	28.1%	170	24.1%	160	26.9%	195	26.4%	240	2.6%	155
Supporters	26.2%	315	26.6%	335	25.7%	340	26.1%	330	21.5%	385	21.6%	405	-4.6%	90
Non-Juno	16.8%	120	19.4%	125	26.9%	105	33.9%	110	22.3%	95	28.9%	95	12.1%	-20
Total	24.2%	670	24.7%	750	25.7%	855	24.9%	900	21.8%	990	23.4%	1075	-8.8%	465

Institutions with a total of 10 students or fewer in every year under consideration have not been displayed, although their figures are included in the overall totals.

**Table 4:** First-year doctoral students studying physics and/or astronomy between 2005/06 and 2010/11 (UK domicile only)

Department	2005/06		2006/07		2007/08		2008/09		2009/10		2010/11		Difference	
	%F	Total	%F	Total	%F	Total	%F	Total	%F	Total	%F	Total	%F	Total
Champions	21.3%	110	19.6%	105	20.5%	155	18.9%	160	16.7%	200	19.3%	205	-2.0%	100
Practitioners	23.9%	65	22.0%	90	23.9%	115	23.4%	125	23.8%	125	24.2%	165	0.4%	100
Supporters	20.7%	215	27.2%	190	20.9%	195	21.5%	190	16.8%	230	21.0%	250	0.3%	35
Non-Juno	16.7%	75	14.9%	85	24.4%	80	30.8%	60	20.9%	65	18.3%	50	-0.3%	-15
Total	21.0%	465	22.3%	475	21.9%	545	22.3%	575	18.5%	625	21.0%	680	0.1%	215

Institutions with a total of 10 students or fewer in every year under consideration have not been displayed, although their figures are included in the overall totals.



**Table 5: Main activities of UK-domiciled physics and astronomy first-degree graduates six months after completion 2005/06 to 2010/11 combined**

Juno Status	Full-time paid work only (including self-employed)	Part-time paid work only	Voluntary/unpaid work only	Further study only	Work and further study	Assumed to be unemployed	Not available for employment	Other	Explicit refusal	Total	Work	Study	Work and Study
Champions	23%	5%	2%	39%	8%	10%	4%	1%	2%	2310	44%	48%	8%
Male	29%	5%	1%	39%	7%	12%	4%	1%	2%	1840	42%	46%	7%
Female	31%	3%	2%	41%	13%	5%	4%	1%	1%	470	49%	53%	13%
Practitioners	32%	5%	2%	36%	7%	10%	5%	1%	2%	2445	46%	43%	7%
Male	33%	5%	2%	35%	6%	11%	5%	2%	3%	1920	45%	41%	6%
Female	29%	4%	3%	39%	11%	6%	6%	1%	1%	52	48%	50%	11%
Supporters	30%	5%	1%	38%	9%	9%	4%	1%	2%	4995	45%	47%	9%
Male	30%	6%	1%	37%	8%	11%	4%	1%	2%	3865	44%	45%	8%
Female	31%	4%	2%	41%	12%	5%	4%	0%	1%	1130	48%	52%	12%
Non-Juno	34%	6%	1%	33%	8%	10%	4%	1%	2%	2440	49%	41%	8%
Male	34%	7%	1%	33%	7%	11%	4%	1%	2%	1940	49%	40%	7%
Female	36%	5%	1%	37%	9%	7%	4%	1%	0%	500	51%	46%	9%
Total	31%	5%	1%	37%	8%	10%	4%	1%	2%	12185	46%	45%	8%

**Table 6: STEM roles of UK-domiciled physics and astronomy first-degree graduates entering full- or part-time work six months after completion 2005/06 to 2010/11**

Juno Status	Graduates in full-time or part-time paid work only			
	Engineering and Technology	Science and Maths	Non-STEM	Grand Total
Champions	39%	7%	54%	775
Male	42%	7%	51%	615
Female	27%	7%	66%	160
Practitioners	39%	10%	51%	960
Male	41%	9%	50%	770
Female	33%	12%	55%	190
Supporters	39%	9%	51%	1775
Male	40%	9%	51%	1375
Female	35%	13%	53%	400
Non-Juno	37%	8%	55%	985
Male	38%	8%	54%	785
Female	33%	9%	59%	200
Total	39%	9%	53%	4490

**Table 7: Applications to physics and astronomy courses between 2008 and 2012**

Department	2008		2009		2010		2011		2012		Difference	
	%F	Total	%F	Total	%F	Total	%F	Total	%F	Total	%F	Total
Champions	20.8%	3154	20.3%	3404	19.6%	3687	19.2%	4058	21.8%	4305	1.2%	1151
Practitioners	22.2%	3866	23.0%	4020	23.9%	3990	22.3%	4432	22.7%	5060	0.5%	1194
Supporters	21.0%	8618	21.7%	7374	21.3%	8254	19.2%	9872	20.8%	10756	-0.2%	4138
Non-Juno	18.5%	3939	19.7%	4263	18.9%	5367	18.0%	6781	18.9%	6854	0.4%	2915
Grand Total	20.8%	17578	21.2%	19059	20.9%	21298	19.4%	25144	20.8%	26975	0.2%	9597

Institutions with a total of 10 applications or fewer in every year under consideration have not been displayed, although their figures are included in the overall totals. The values in individual rows have been calculated using a dataset in which values less than three have been suppressed. The total has been calculated using a dataset that does not include any suppressed values.

**Table 8: Total acceptances to physics and astronomy courses between 2008 and 2012**

Department	2008		2009		2010		2011		2012		Difference	
	%F	Total	%F	Total	%F	Total	%F	Total	%F	Total	%F	Total
Champions	22.8%	814	23.2%	651	20.4%	720	19.5%	722	21.9%	690	-0.9%	76
Practitioners	20.2%	634	22.2%	716	25.4%	672	21.4%	737	21.3%	831	1.1%	197
Supporters	21.0%	1426	20.8%	1492	21.0%	1511	20.0%	1736	21.5%	1897	0.5%	471
Non-Juno	21.3%	848	20.6%	908	22.2%	974	19.2%	1170	18.7%	1192	-2.8%	344
Grand Total	21.3%	3442	21.5%	3710	22.0%	3811	20.0%	4302	20.8%	4555	-0.5%	1115

Institutions with a total of 10 acceptances or fewer in every year under consideration have not been displayed, although their figures are included in the overall totals. The values in individual rows have been calculated using a dataset in which values less than three have been suppressed. The total has been calculated using a dataset that does not include any suppressed values.

## Appendix C: Staff survey respondents' opinions of departmental practice

**Table 9:** Respondents' opinions of departmental practices

Analysis	Juno Status	Respondents	Overall					Average of Institution Response				
			Excellent	Good	Average	Poor	Awful	Excellent	Good	Average	Poor	Awful
The support from the senior management in my department for women in science issues	Distribution	174	33%	44%	18%	5%	0%	29%	50%	18%	3%	0%
	Champion	48	50%	35%	15%	0%	0%	61%	26%	13%	0%	0%
	Practitioner	6	50%	50%	0%	0%	0%	50%	50%	0%	0%	0%
	Supporter	42	33%	44%	19%	5%	0%	31%	50%	14%	5%	0%
	Non-Juno	28	14%	61%	21%	4%	0%	11%	60%	27%	2%	0%
The appraisal system for academic staff	Distribution	174	9%	41%	40%	10%	1%	9%	41%	42%	8%	0%
	Champion	48	19%	54%	25%	2%	0%	19%	56%	23%	1%	0%
	Practitioner	6	17%	67%	17%	0%	0%	17%	67%	17%	0%	0%
	Supporter	42	6%	30%	48%	16%	0%	10%	26%	50%	13%	0%
	Non-Juno	28	0%	43%	50%	7%	0%	0%	50%	44%	6%	0%
The appraisal system for postdoctoral staff	Distribution	174	8%	37%	34%	13%	7%	8%	36%	41%	10%	5%
	Champion	48	17%	50%	23%	8%	2%	18%	54%	18%	9%	1%
	Practitioner	6	17%	50%	33%	0%	0%	17%	50%	33%	0%	0%
	Supporter	42	6%	25%	44%	16%	9%	10%	21%	48%	12%	8%
	Non-Juno	28	0%	43%	39%	14%	4%	0%	47%	40%	11%	2%
The guidance for all potential applicants for promotion	Distribution	174	8%	40%	34%	13%	5%	8%	50%	27%	10%	6%
	Champion	48	17%	50%	25%	4%	4%	14%	54%	27%	3%	3%
	Practitioner	6	17%	50%	33%	0%	0%	17%	50%	33%	0%	0%
	Supporter	42	0%	0%	0%	0%	0%	10%	44%	26%	12%	7%
	Non-Juno	28	0%	43%	36%	14%	7%	0%	56%	28%	11%	6%
The support and encouragement for all potential applicants for promotion	Distribution	174	11%	37%	29%	17%	6%	10%	35%	36%	11%	8%
	Champion	48	19%	44%	23%	10%	4%	19%	46%	22%	10%	3%
	Practitioner	6	17%	50%	33%	0%	0%	0%	0%	0%	0%	0%
	Supporter	42	8%	36%	31%	16%	9%	12%	25%	40%	14%	9%
	Non-Juno	28	4%	36%	36%	14%	11%	2%	42%	37%	10%	9%
The arrangements for flexible working	Distribution	174	19%	51%	26%	4%	0%	19%	45%	25%	11%	0%
	Champion	48	27%	56%	15%	2%	0%	24%	61%	9%	5%	0%
	Practitioner	6	50%	33%	0%	17%	0%	50%	33%	0%	17%	0%
	Supporter	42	19%	41%	34%	6%	0%	25%	26%	30%	20%	0%
	Non-Juno	28	4%	61%	36%	0%	0%	2%	68%	30%	0%	0%
The arrangements for staff cover during career breaks, sabbaticals and/or maternity leave	Distribution	174	13%	48%	28%	9%	2%	10%	48%	28%	11%	3%
	Champion	48	17%	67%	13%	4%	0%	14%	68%	12%	6%	0%
	Practitioner	6	17%	67%	17%	0%	0%	17%	67%	17%	0%	0%
	Supporter	42	13%	39%	41%	5%	3%	14%	38%	37%	6%	5%
	Non-Juno	28	0%	46%	29%	21%	4%	0%	49%	25%	23%	2%
The arrangements for staff when they return from career breaks, sabbaticals and/or maternity leave	Distribution	174	7%	45%	39%	7%	1%	8%	34%	50%	8%	0%
	Champion	48	13%	52%	35%	0%	0%	15%	51%	33%	0%	0%
	Practitioner	6	17%	67%	17%	0%	0%	17%	67%	17%	0%	0%
	Supporter	42	6%	41%	48%	5%	0%	10%	25%	59%	5%	0%
	Non-Juno	28	0%	43%	39%	18%	0%	0%	32%	51%	17%	0%
The departmental workload allocation model	Distribution	174	6%	40%	34%	14%	6%	4%	42%	32%	10%	12%
	Champion	48	13%	46%	25%	13%	4%	8%	51%	27%	12%	3%
	Practitioner	6	17%	33%	17%	17%	17%	17%	33%	17%	17%	17%
	Supporter	42	5%	41%	36%	16%	3%	3%	56%	26%	10%	4%
	Non-Juno	28	0%	29%	46%	7%	18%	0%	20%	46%	9%	25%

## Appendix D: Comparison of knowledge of Project Juno with Athena SWAN in HE physics departments

**Table 10:** Respondents' knowledge of their department's involvement in Juno compared with their knowledge of engagement in departmental Athena SWAN activities

Respondents' knowledge of engagement in departmental Athena SWAN activities	Respondents' knowledge of their department's involvement in Juno				Total
	Involved	Not involved	I have never heard of Project Juno	Not sure	
I have never heard of Athena SWAN	23	0	8	7	38
Working towards Department Bronze	12	1	1	6	20
A holder of Department Bronze	2	0	1	3	6
Working towards Department Silver	1	0	0	4	5
A holder of Department Silver	28	1	6	1	36
Working towards Department Gold	15	0	0	1	16
A holder of Department Gold	0	0	0	0	0
Not sure	43	0	6	13	62
Overall	112	7	22	29	170



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