

**Written Evidence Submitted by Clare Viney, CRAC-Vitae  
(DIV0102)**

**1. Biological sciences**

**Q1 Carol Monaghan:** I suppose traditionally—I do not like that word, but I was a physics teacher—girls would have gone to biological sciences and fewer would have gone to physical sciences. What we are hearing from people working in biological sciences is that the same issues apply; they are still struggling to get professorships, they are still struggling to manage the work/life balance, and there is still drop-off. Can we apply what is happening in physics to what is happening in biological sciences as well?

**Clare Viney:** Eighty per cent. of postgraduate researchers aspire to an academic career, yet we know that only 10% to 15% will achieve a meaningful academic career. My charity has been working in this space since 1968. It is not a new problem. There are many reasons. I mentioned that there are 50,000 postdocs. The Government’s investment in research in universities has a biomedical bubble. There are huge numbers of postdocs. There are some socioeconomic dimensions to that. Many of those postdocs are on short-term contracts. In higher education, about 70% of contracts are short term. It is not the same in other sectors. The system is complex. Between the diversity and inclusion culture, the door is being opened, which is diversity, but they are not feeling included when they are there.

**Q2 Carol Monaghan:** The issues that are clear in physics and engineering-type subjects apply in biological sciences as well.

**Clare Viney:** Probably to a lesser degree. We can get you the exact stats.

We have gone for a broad definition of ‘biological’, while the number of postdoctoral researchers will be an underestimate because these were calculated for a specific purpose utilising a narrower definition of career stage (for the Royal Society’s publication specifically about the profile of those eligible for its awards). Nonetheless, the dimensions within that population should apply also to all stages of postdoctoral researcher. These are 2018/19 Higher Education Statistics Agency (HESA) data:

Career stage	Total	Number of women	% women	Number of Black origin	% Black origin
Postdoctoral researchers	4600	2600	57%	80	2%
Postdoctoral researchers (UK domiciles only)	2100	1200	57%	15	1%
Professors (all)	2400	690	29%	12	0.5%

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In summary, there is also ‘attrition’ in proportion of women with increasing career stage in the biological sciences, but from a higher starting proportion. Comparison with statistics for doctoral study suggests the key ‘drop-out’ occurs during or after postdoctoral positions, but between PhD and postdoctoral employment. The trend for those of Black origin is similar to that seen in the physical sciences.

## 2. Black female professors in STEM

**Chair:** Finally, to go back to the figure that you introduced the Committee to about the number of black male professors in STEM, do you have the equivalent number for black women in STEM?

**Clare Viney:** We can get you that.

**Carol Monaghan:** What about just female professors?

**Chair:** And indeed female professors.

**Clare Viney:** Yes, we can get you that.

Here we are considering STEM to exclude subjects within or related to medicine, veterinary medicine and dentistry. Again, these are 2018/19 Higher Education Statistics Agency (HESA) data. Again, the definition used for postdoctoral researchers underestimates the total population, due to the filters used, but the profile should be similar. It can be seen that the proportion of women Professors is about half their proportion as postdocs.

Career stage	Total	Number of women	% women	Number of Black origin	% Black origin
Postdoctoral researchers	13500	5600	41%	260	2%
Postdoctoral researcher (UK domiciles only)	5000	2200	44%	65	1%
Professors (all domiciles)	9500	2000	21%	45	0.5%
Professors (UK domiciles)	6600	1450	22%	25	<0.5%

Of the 25 UK-domiciled Professors in this definition of STEM, 5 are female.

If we narrow the analysis down further to Physics only:

Career stage	Total	Number of women	% women	Number of Black origin	% Black origin
Postdoctoral researcher	1100	250	23%	5	<0.5%
Postdoctoral researcher (UK domiciles only)	350	75	21%	1*	0%
Professors (all domiciles)	795	90	11%	1*	0%
Professors (UK domiciles only)	550	55	10%	1*	0%

\*Conventions in handling/reporting HESA statistical data require that numbers are rounded to the nearest five, so in these cases that number should become zero.

In the 2018/19 data, using the filtering we applied for postdoctoral researchers, only one Black male UK postdoc in physics is identified (which should be rounded down to zero). A wider definition of postdoctoral researcher could increase this to a handful at most. Equally, there appears to be a sole Black Professor (the only one being male and of UK domicile) in the 2018/19 staff population.

As for STEM as a whole, the proportion of Professors who are women is about half of the proportion as postdocs.

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