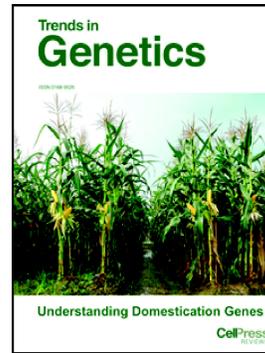


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The invisible university is COVID-19 positive

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Abstract

Within the ivory tower, the COVID-19 pandemic stands to disproportionately impact the invisible workforce of postdoctoral researchers. Faced with university closures, hiring freezes and a general lack of support and benefits, an entire generation of Ph.Ds. and their knowledge and skills may be lost to academia without intervention.

Main

As the continuing COVID-19 crisis engulfs the globe, its inhabitants, and their livelihoods, many are facing enormous challenges. As is the rule in a society fraught with disparity, this crisis continues to hit vulnerable groups the hardest in every way, deepening the consequences of inequality [1]. The proverbial ivory tower of academia is no exception to this rule [2].

The COVID-19 pandemic stands to disproportionately impact certain members of academia, including postdoctoral researchers, or “postdocs”. Largely unknown to those outside the scientific community, postdocs are Ph.Ds. that are neither faculty nor students. They often do not qualify as employees, and their specific numbers are unknown, even within academia. Referred to as the “invisible university” due to this elusive nature [3], postdocs nonetheless comprise a significant proportion of the academic workforce and are at the forefront of cutting-edge research. Without them, science would come to a halt, especially in biological and medical fields.

The majority of those undertaking postdoctoral research in the sciences are doing so to compete for independent academic positions [4]. However, the COVID-19 crisis has led to numerous hiring freezes across the board, and even job offers that have been made are being rescinded [5]. This has rendered an already dire tenure-track job market - which arguably never fully recovered from the 2008 recession - nonexistent for at least two hiring cycles (i.e., years). Postdocs are most often funded by research grants tied to a particular institution and/or faculty member and are generally subject to *annual* contracts. Thus, a lull in hiring can have disastrous consequences for these early career scientists. Postdocs are generally not as well-paid as their peers, outside of academia, and often lack benefits and safety nets that faculty, students, and permanent staff have access to, such as paid family leave [6,7]. This is further conflated by the fact that many postdocs are at the stage of their lives when they start families (e.g., the two-body problem) [8]. The situation is even worse for international postdocs – it has been estimated that at least half, and up to two-thirds of all postdoctoral researchers are on temporary visas in the United States, and this percentage has only been increasing through time [9]. Many of these researchers are in danger of being extirpated without continued employment, while simultaneously unable to travel to their home countries to renew their existing visas and return to their place of employment.

Even those fortunate enough to be able to weather the aftermath of this global catastrophe and remain in academia for now will be burdened with numerous handicaps competing in future academic job markets. Many will lose months or years of scientific progress as universities have shut down lab activities and travel restrictions and safety concerns make fieldwork impossible [10]. Further, researchers who have already worked as postdocs for some years are in very real danger of being perceived as having been postdocs for too long to warrant serious consideration for faculty positions.

At the best of times, the postdoc life is still defined by its uncertainty; one is always at the end of a deadline or funding cycle with no guarantee of future employment. However, the COVID-19 crisis has all but guaranteed that there will be next to no permanent employment for many current postdocs in the coming years, at least not in academia [11]. Though science jobs exist outside of academia, they too may be similarly impacted, and graduate and postdoctoral training generally do not foster the skills industry jobs require [12]. Inevitably many will still be forced to abandon years' worth of scientific work and training and seek alternate career options, even as the role of basic research and the scientific community has become more important than ever, in light of our lack of preparation for the COVID-19 epidemic. This represents a significant loss for both the scientific community and society as a whole, not to mention individuals.

The COVID-19 epidemic did not create these problems; rather it has highlighted long-known issues with the arguably exploitive postdoctoral system in academe [13,14]. Despite numerous calls, remedying this disparity in academia has never been a priority, as institutions and labs benefit from the relatively low-cost, low-maintenance workforce postdocs represent [7,14,15]. More so than ever before, many of our early career scientists are faced with an impossible challenge, and their loss is the loss of the global community. Even as universities scramble to implement policies to mitigate the impact of COVID-19 on students and faculty, postdocs are comparatively being overlooked by administrations despite outnumbering faculty. Will academia choose to ignore the plight of the postdoc, yet again, in the face of this global crisis?

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