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# Recruiting PostDoc and Research Scientists?





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ARE THE DISRUPTIONS OF UBERISATION A BANE OR BOON FOR SCIENCE?

② 27 APRIL, 2016 ♣ FIONA DUNLEVY ₱ 1 COMMENT

Can the scientific endeavour become sustainable as it becomes reliant on distributed teams?

Uberisation is the latest buzzword to describe the disruption of industries by slick digital platforms connecting workers with specific tasks or services. So where does science stand in the brave new uberised world? For every characteristic of uberisation, there is a parallel in the world of research. This raises the question of whether research uberised before Uber even existed? In this article, *EuroScientist*, looks into whether science was ahead of its time and explores what we can expect in the future.

## **Precarity on the rise**

Industries have been uberised one after another. For example, <u>AirBnB</u> competes against hotels, <u>crowdfunding platforms</u> complement traditional finance tools and an army of specialist workers land computer-based tasks via the likes of <u>Upwork</u>. There are two sides to the on-demand uberisation model. The agile environment fosters innovation and better value as well as a more streamlined user experience. On the flip side, uberisation is pretty dismal regarding workers' rights and job security.

A worker in the uberised world is the ultimate multi-tasker, cobbling together multiple income streams to keep their portfolio career afloat. Often, they never quite know where their next paycheck is coming from. Labour becoming more casual and job precarity increasing is nothing new, according to <a href="Ruth Müller">Ruth Müller</a>, assistant professor for science & technology policy at the Technical University of Munich, Germany. "The gradual restructuring of labour conditions has been going on for a few decades now," she says.

Research does not escape this trend. It is being revolutionised by digitally-enabled big data and platforms. "A problem for the researcher is mastering and accessing these new tools," says Yann Bonnet, secretary general of the Digital Council of France (CNNum), and co-author of a recent report called "Digital work: new trajectories", examining the impact of digitalisation for workers. As far as permanent salaried work goes, "the age of certainty is over," says Judith Herzog, CNNum member and report co-author, "the important thing is that people are secure in in their transition, that they have access to appropriate training."

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The shift to competitive funding in recent decades has exposed researchers to new forms of precarity. This competition has shifted the goal posts for normal work conditions. "Researchers who work a standard 40 hour week lose out in a culture that normalises overwork," says Müller, explaining that in this pressure, "rights are implicitly taken away."

Competing for research grants like Uber drivers compete for jobs has an impact beyond precarity. A less discussed consequence is the rise of risk-free research, says Müller. "The more insecure the working conditions are, the more researchers choose secure, somewhat predictable projects," adds Müller. She adds: "contracts limited to two or three years exclude certain questions that need longer time frames. This problem is barely recognised in science policy at the moment."

Other experts concur. "Researchers have to follow the money," says Lidia Borrell-Damian, research and innovation director at the European Universities Association, in Brussels, Belgium. She adds: "the critical issue is that researchers in the labs are not in charge of the research strategy. They have very little leverage." She agrees that "blue skies research must be better funded in future; this is what gives the competitive edge."

### **Publishing and rewards**

Another aspect of scientific life that is changing is how researchers communicate their findings. Scientific publishing is undergoing major disruption, facilitated by a myriad of online platforms. Researchers can now bypass paywalls by sharing articles on ResearchGate and Academia.edu, while anonymously reviewing new papers on **PubPeer**. According to Borrell-Damian, the rise of these platforms is "having an effect on how research and the careers of researchers are being assessed, with huge consequences ahead."

This shift in the reward system of science and the resulting pressure on young precarious researchers risks "breeding a generational conflict" with their older, comfortably salaried research bosses, according to sociologist Alan Irwin, professor of science and technology studies at Copenhagen Business School, Denmark.

Already some suggest changing the reward system itself by giving credit to the most elementary contribution to research, as the recently created Matters journal does. Others go one step further by recording everything down to each database query and comments contributing to furthering the scientific debate, as a means to later <u>crediting scientists adequately</u> for their contribution.













# **Evolving science practice**

Research activity can, however, in principle benefit from uberisation. Science is increasingly dependent on collaboration, and outsourcing specialised tasks is an integral part of the process. For example, Science Exchange matches clients outsourcing experiments with service-providing labs through a slick online platform. "We took the idea of what Uber had done to transportation and applied it to contract research organisations (CROs), core facilities and other scientists," explains Dan Knox, co-founder and chief operating officer at Science Exchange, Paolo Alto, California, USA.

Crowdsourcing external expertise is not new. <u>Innocentive</u>, Waltham, USA has been crowdsourcing solutions to challenges set by their clients for 15 years. They were the foreguard of the uberisation trend in science. Innocentive deals in big ideas and solutions, giving cash prizes to winning tenders. Science Exchange, on the other hand, brokers the outsourcing of laboratory experiments. "Scientific collaboration is as old as science," says Knox, "a platform like [ours] that makes it massively more convenient could have a big impact on the [research-based] industry."

# Path to sustainability?

Uberisation brings some further interesting advantages. Allowing labs to complement their funding by partly earning their own money could be the key to survival for many research groups, according to Gilles Mirambeau, an editorial adviser to EuroScientist, who is also professor of molecular biology at UPMC Sorbonne Universités, Paris, France. "The high stakes in labs today is maintaining know-how and personnel," says Mirambeau. He explains that lack of funding for technicians means that expertise leaves the lab along with the PhD student or postdoc who spent years perfecting the technique.

Expertise could be maintained, if commercialised. "In the life sciences there a growing tendency for small spin-offs to look for experimental services from small academic groups for a fee," says Mirambeau, "this should give research groups a means of survival." Borrell-Damian from the EUA is open to this approach but warns: "these kinds of services can contribute to costs but cannot replace investment in science." In a further warning, Irwin says that labs selling laboratory services risk "losing the ethos of science."

### **Breaking monopolies**

Uberisation is also about ordinary people holding the power to collaborate and break monopolies, according to Remy Oudghiri, sociologist at Sociovision,













in Paris, France. For example, <u>crowdfunding of science</u>could allow "ordinary people to give money to causes that make sense to them."

Some scientists has thus been able to raise limited research funding. That's the case of Angelica Menchaca, a PhD student in bat evolution and ecology at the University of Bristol, UK. She successfully crowdfunded her research to the tune of €6,200 (\$7,000), using the platform Experiment.com. As a Mexican student studying in the UK, Menchaca receives a stipend for living expenses but no money for the research itself. "I used the money for field trips and DNA analysis. It funded the first chapter of my thesis," says Menchaca, "You have to create your own opportunities to succeed in science."

## The solution, not the problem

Academia has traditionally been a place where researchers were insulated from money worries. But those days are long gone. And every little revenue stream could help researchers hold their heads above water and keep research groups intact. According to Oudghiri, we must ask "how science can use uberisation to move forward." Clearly, "uberisation is one radical solution and the opposite to [employing] civil servants and full stability," says Mirambeau. The challenge now is to further leverage uberisation for the good of science and scientists; keeping the best bits while sensibly jettisoning the bad.

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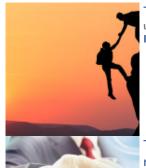
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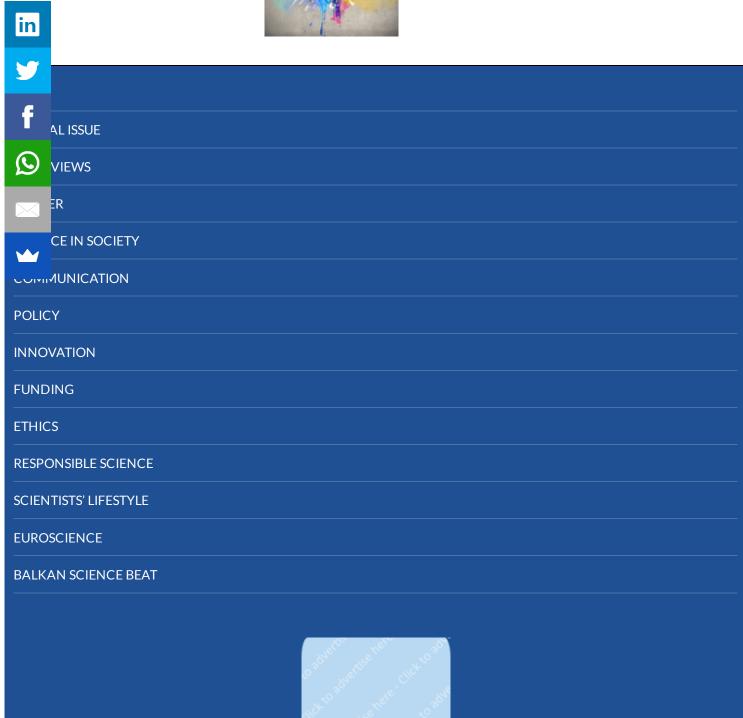






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