

scientists in India, a new generation of enthusiastic clinician-scientists needs to be fostered to ensure appropriate recognition and research credits.

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The meaning of being acknowledged in a manuscript

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With a fresh degree in Biotechnology, I was keen on getting some work experience before deciding on further studies. I wrote emails to several leading researchers in the country. A few responded and one offered me an internship. After a brief interview, I was on board, working in her laboratory. It was an intense work environment, where focused and dedicated professionals spent much of their time in benchwork, designing and redesigning experiments proving hypotheses.

As an intern, this was a first of its kind experience for me.

The principal investigator (PI) was an accomplished scientist who would take a great interest in mentoring every lab member. Out of the two studies that I was involved in, I had a chance to contribute markedly to one, by helping build the desired genetic strains of the model organism. The PI suggested that my work merited an “acknowledgement” in the upcoming manuscript. I was overjoyed and felt that it was a mark of achievement that I could put on my CV.

Sometime later, I came across a professional opening at a reputed academic institute and wanted to know more about the role. I wrote to the employer. However, instead of addressing my query she asked whether I had a publication. I thought I did — after all, I was to be acknowledged in the manuscript. However, I learned that being acknowledged in an academic paper does not count as having a publication. Later I realised that an acknowledgement is a “non-academic contribution” that carries “very low” credits, and mentioning it on the CV will not add much value. This was the beginning of my realisation of the value given to authorship; the measure of excellence in the world of research and academia. As a result, I began undervaluing the significance of being acknowledged in a manuscript.

The success of research and indeed the completion of a manuscript depends on several individuals, not all of whom are researchers or skilled academic writers. The International Committee of Medical Journal Editors (ICMJE) suggests that an author should (i) *substantially contribute to the conception or design of the work; or to the acquisition, analysis, or interpretation of data for the work; and (ii) draft or critically revise the manuscript for intellectual content; and (iii) agree to be accountable for all aspects of the work; and (iv) approve the final version of the manuscript* [1]. Those failing to meet all four criteria, cannot be classified as authors but could only be acknowledged [1]. According to the ICMJE and the Committee on Publication Ethics (COPE), activities that can merit acknowledgement are technical support, financial support, supervision, proofreading, and mentorship amongst others [1,2]. Therefore, those who do substantial groundwork like mobilising the community and administering the informed consent process in a field-based research project; those taking notes in a focus group discussion and helping translate crucial documents into the local language; and interns in life science laboratories who help in benchwork so that other researchers have enough time to do their “intellectual” work and continue with their paper writing — can all merit an acknowledgement, if some good PIs ensure this, at all times. This is also in line with the principle of equality, where everybody's work is recognised and valued. Besides, there is something intrinsically good in giving credit where credit is due. Additionally, some PIs take an interest in building individuals' capacities so that they can make it as authors. After all, being in the league of authors is not just about qualifications, skills, and merit but also about having the privilege of accessing quality education.

Being acknowledged and thanked several times in an academic output can also indicate being helpful [3]. Someone who often helps others by mentoring them and sharing expertise and wisdom would have more acknowledgements to their credits [3]. Too bad that acknowledgements are not measured, unlike individual achievements such as being a lead author, being cited, or sharing authorship with an established expert in the field. Perhaps a metric like an “acknowledgement impact” or an “acknowledgement factor” could be developed, which may actually throw some light on an individual’s tendency to be helpful. Such a metric could guide us in identifying individuals who may foster a team spirit and helpfulness culture.

My attitude toward undervaluing acknowledgements has now changed. I feel acknowledging others sincerely is a way of showing respect for work and people who are essential for the fruition of project activities. For the individual, being acknowledged could mean several things, like entry into the world of research, close interaction with acclaimed researchers, or their first professional recognition. So, while I hear people snobbishly saying, “Who reads the bottom of the manuscript?” I continue to feel honoured every time I am in the league of such contributors.

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Made in China: the coronavirus that killed millions of people

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It has been widely suspected that SARS-CoV-2, the coronavirus that caused the Covid-19 pandemic, escaped from the Wuhan Institute of Virology because of sloppy safety procedures and that it was man-made as part of the so-called gain-of-function research at the institute [1]. If this is the case, it makes China responsible for over 5 million deaths so far and the United States complicit, as it funded the highly dangerous research

[1]. The public has been misled about the likely origins of the pandemic right from the start [2].

The best article I have found on this issue was published in the *Bulletin of the Atomic Scientists* [1], a journal doctors do not read, and I therefore wish to draw attention to its key arguments below.

SARS-CoV-2 has a pair of arginine codons that are routinely used in labs [1]. If the emergence were natural, it would require a recombination event at a site on the virus’s genome where recombinations are rare, and the insertion of a 12-nucleotide sequence with a double arginine codon unknown in the beta-coronavirus repertoire, at the only site in the genome that would significantly expand the virus’s infectivity [1]. This sequence of events is extremely unlikely, and adding a furin cleavage site is known to make a virus more deadly [1].

Chinese researchers have failed to find a bat population as the source of SARS-CoV-2, or an intermediate host to which SARS-CoV-2 might have jumped [1] despite an intensive search that included the testing of 80,000 animals [3].

A sound principle in research is that if you have nothing to hide, then hide nothing. It can only be beneficial to be open and transparent, as it will increase your trustworthiness. However, China did its utmost to conceal the nature of the tragedy and China’s responsibility for it [1]. Chinese authorities suppressed all records at the Wuhan Institute and closed down its database of viral genomes [4]. China barred all international scientists from going near the caves in Yunnan; blocked the roads; confiscated samples taken by a team of scientists on a trip to the caves; and decreed that all research papers based on evidence from the caves must be submitted to a task force overseen by the government “under direct orders from President Xi Jinping” [5].

The World Health Organization’s (WHO) inspection to Wuhan was a farce. It was heavily criticised by some of the world’s top virus researchers who wrote that the information, data, and samples for the study were collected and summarized by the Chinese half of the team, and the rest of the team built on this analysis. Although no findings were presented in clear support of either theory, the team assessed a zoonotic spill over from an intermediate host as ‘likely to very likely,’ and a laboratory incident as ‘extremely unlikely’ [6].

However, the two theories were not given equal consideration, which was elucidated in a brilliant TV documentary about WHO’s mission to China from August 2021. The film shows the scale and nature of the systematic Chinese cover up about the origin of SARS-CoV-19. The head of the mission, the Dane Peter Ben Embarek, was unusually outspoken and direct for a long-time WHO employee. I have provided a comprehensive summary, with the Danish bits translated into English [7]. The documentary ends by saying that WHO has come up with a plan for further studies in China, including in-depth investigations of relevant