



## Grabbing pebbles out of my shoes: Thoughts of a grumpy old researcher on funding

By Enrico Traversa

The job of a researcher is a privileged one; most of us are enthusiastic about the work we do. It involves a great deal of creativity, which means a lot of self-gratification. Unfortunately, these job characteristics enable a peculiar aspect that is now considered to be normal almost all across the globe. A scientific researcher is typically an employee, but if a researcher wants to work, one is compelled to raise the money by oneself through grants. Any employee, other than a researcher, is usually given the necessary tools to properly perform their routine job. A researcher, on the other hand, has to write proposals for raising the necessary funds for carrying on his job, which is often his pleasure.

Writing proposals has become the main chore of researchers, more than performing the research work, which is now mostly assigned to junior researchers. This is true almost all around the world, except for a few blissful institutions, such as the Max Planck Institutes in Germany, where leading staff members are provided a budget to perform their research. The number of researchers continues to increase, but research funds are not increasing at the same pace. The result is that the success rate of funding applications is plummeting to unprecedented levels in many countries, including the EU and the United States. The system of funding of EU projects is such that you need a strong organization backing your proposal to succeed, and this is helping a small number of institutions obtain a significant percentage of the allotted resources. Is this the way to improve the total research productivity and output? I doubt it. Concentrating resources in the hands of a few will limit the creativity of the majority and may eventually destroy the connective tissue of research.

Despite 30 years of experience as a researcher, I am still young enough to foresee an additional decade of research in my future. I dare say that my most productive years were those in which I was not encumbered by stressing myself to write hopeless proposals. This happened for a few years while I was in Italy, in the remote golden age where national funding was still available and when writing an application was not a vain task. When I moved to the National Institute for Materials Science (NIMS) in Japan, I was provided with remarkable starting conditions, allowing me to focus my efforts only on research. Japan is not free from bureaucracy and administrative tasks, but I took advantage of the fact that I was not able to read and write Japanese, and received assistance with these duties. Unfortunately, the combination of tragic events of March 2011—the Fukushima nuclear accident—and the stiffening of working conditions due to changes at NIMS forced me to quit. In a quest for funding to continue to perform my research, I was next led to Saudi Arabia, where I fancied establishing a great lab with gigantic resources. It came close, but it turned out to be an illusion for me, so the search continued.

Then came the awareness that the number of countries in the world where I could envisage performing research instead of fundraising was continuously shrinking because of decreasing oil prices or an unwillingness to try other unknown exotic adventures. I was asked to apply for a position of distinguished professor at a reputable US university, but again, due to a change in management, the search was switched to finding someone able to raise several million dollars in a year. Hmm, being hired to raise the money to be able to work? No thanks. I choose to work as a researcher, not as a fundraiser.



Sticking to my logic, I decided to stay in Asia and accept a position with the University of Electronic Science and Technology of China (UESTC) in Chengdu. China has generous funding possibilities at the moment, with the Chinese government planning to raise research funding from the present 1.3% to 2% of gross internal product in 2020. Merit is also valued in China, and funds are assigned depending on productivity. Thus, the prospects for the near future are bright, as UESTC is offering the possibility of a good entrance package in terms of funds and the possibility to hire a trusted group of people for my research team.

I am not sure if what I am doing is totally insane, or if this will make my life happy or miserable, but I believe I am undertaking a coherent path, trying to work in conditions that I consider sound, without being imposed upon. Of course, people have to invest money in my research to allow me to play, and often this is taxpayer money. An appropriate return is due, and I think I am able to deliver responsibly. Time will tell whether I made the right choice.

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