

# Think international collaborations are safe? Think again .....

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Thomas J Webster

Department of Chemical Engineering,  
Northeastern University, Boston, MA  
02115, USA

In research, especially in academia and our universities, we have always thought we are safe. Safe to address the highest priorities of healthcare problems. Safe to develop the latest solutions to cancer and any disease we wish to study. Safe from politics. Safe from archaic policies that stymie finding cures for Alzheimer's disease or stroke. Safe to generate nanoparticles that can both detect MRSA infections and clear them from the human body.

Safe.

Safe to collaborate with whom we want.

Safe.

In case you have not been paying attention, that is not true anymore. Around the world, significant barriers now exist that restrict who we can collaborate with and, in turn, our scientific freedom to develop healthcare solutions that could save millions of patients, today. In case you have not been paying attention, new government and university policies exist all around the world restricting research collaborations. The same collaborations that resulted in the past in Nobel Prizes, new cures for diseases, and so much more.

Here are just some of the examples.

At many universities in the US, the system for sponsoring visas for visiting international scholars was completely stopped (in some cases for over 9 months and in some cases they are still stopped). In my case, this directly affected our ability to fight antibiotic resistant infections, develop improved implantable sensors, and cure cancer since several students from around the world who applied for and received fellowships from their host country to work in my lab, were no longer permitted to complete what promised to be ground breaking research. Their visa sponsorship could not even be evaluated. In some cases, they went elsewhere and to different countries and in some cases, sadly, their dream of curing diseases stopped. In the US, The Centers for Disease Control (CDC) recently announced that by 2050 every 3 seconds someone will die from antibiotic resistant bacteria. This was before many universities in the US abruptly halted visa sponsorship programs. I wonder what the CDC thinks about this lost productivity and unacceptable delays (possibly a permanent loss of ideas) in finding solutions to kill unwanted bacteria without using antibiotics? As a consequence, they may need to change their statistics to be even worse. Another example of how we are creating our own healthcare problems.

Another example. Universities in the US have changed policies for sponsoring international visiting scholars in that such students will need to enroll during a time

Correspondence: Thomas J Webster  
Boston, MA 02115, USA  
Email [th.webster@neu.edu](mailto:th.webster@neu.edu)

period which matches the academic calendar of the US university (at my university, the fall semester occurs from September to December, the Spring semester from January to April, and the summer sessions May to June and July to August, etc.). How many of your universities follow this schedule (especially outside of the US)? It is well known that European and Asian universities have a much different academic calendar, disqualifying them for ever conducting disease fighting research in and for the US.

Another example. In the old days (i.e., just one year ago), according to US policy, professors from some universities verified the ability of international visiting scholars to speak English on regulatory forms. Now, many universities are employing a third party “expert” to perform this verification. Not only is it unclear what constitutes English proficiency, opening the door for a lack of transparency in the approval of visiting scholars from certain countries, but remember before and during World War II when some of the best scientists from Europe migrated all around the world (including to the US) to advance science? Their language was research. Their language was science. Their language was to improve the health of everyone. And, we are still seeing the benefits today of the globalization of the best minds ever in science from the migration that occurred during that time period. If you are US centric, many of these policies around World War II which allowed for the “immigration of science” benefited the US tremendously. Further, some of the best language experts suggest that an immersion based technique (or living in the area that speaks the language you want to learn) is the best way to learn a foreign language.

And, probably the most significant and damaging example for the future of international collaborations. Universities all over the US are investigating Chinese nationals now employed at US institutions for IP theft, sharing secrets from grant review boards which are to be confidential, fraud, and other ethical issues. So called “McCarthyism” lists have been distributed all over the US with internal investigations and reports back to the government expected. A few threats of the removal of US federal government grant money to universities has sparked paranoia that I have never seen before. These investigations are hurting the reputation of Chinese nationals and severely decreasing our collective ability to cure the diseases killing patients now. What strikes me as absurd about such new policies is that our fundamental underlying policy at universities is to promote the free, unrestricted spreading of scientific knowledge. We often fight for that when

negotiating research contracts with industry. In fact, new policies in Europe thankfully have moved towards the greater sharing of research by requiring those that receive EU funding to publish in Open Access journals. Good news for the International Journal of Nanomedicine, which is open access. The US will probably head in the same direction as publications generated from US federal funding agencies already require such research to be publicly available. The argument is that if such grants come from taxpayer dollars, it should be available to taxpayers. Makes sense. So, for those creating these new policies in the US and other countries, how do you reconcile academic freedom with “research McCarthyism” targeting Chinese nationals if such research funded by federal agencies will eventually be mandated to be publicly available?

I have heard from many colleagues in the US that their university has asked, or even required them, to limit or even stop international collaborations in China due to the fears above. Many US universities fear repercussions from US federal funding agencies if their professors have collaborations with China. I personally have even been told not to bring my laptop computer to China through formal international training workshops, called “export control”. What am I trying to hide? In fact, quite the opposite, I want the world to know about my research as it could save lives. Cancer is no different for a patient from China than from the US. We are all in this together.

Stories like these, and more, are abound, just pay attention. Junior faculty don’t discuss them for fear of not getting tenure while many senior faculty dismiss this as “well I don’t have collaborations in China, so why make a fuss.”

In my role as Founding Editor of the International Journal of Nanomedicine which publishes the most articles on nanomedicine improving healthcare of almost any journal, I see the value of international collaborations every day. Research articles published in our journal of taking the unique flora in Colombia and combining them with nanoparticles developed elsewhere to decrease tumor size. Research of rare earth metals found in China that can be combined with bacteria targeting ligands developed in India to kill MRSA. These are the promising results of international collaborations. This is what we are losing by restricting such collaborations in the name of nationalism and isolationism. We, at the International Journal of Nanomedicine, will not give into these archaic ideas. In fact, we will double down our efforts to sponsor more international conferences and publish even more ground breaking studies from international collaborations.

It is clear to me that we have already passed a cross-road severely limiting international collaborations, for now and in the future. We have already lost most of the battle. At a time when we should have all been highlighting our incredible international collaborations to cure diseases throughout the decades (taking it for granted that such advances especially in healthcare would be highly valued), we were silent. At that time, we did not speak up even when we heard these stories from our colleagues. At this time, we do not insist on our academic freedom to collaborate with whom we want and when we want. We have not galvanized and fought back against limiting our (international) collaborations. We allowed others to restrict our research freedom of whom to collaborate with and when, the founding pillar of the academic university system.

No one knows what the future holds, but in my opinion the future has already changed. Our ability to find cures to numerous diseases has changed. Our ability to reverse our decreasing life expectancy has changed (in case you do not know, life expectancy in numerous industrialized nations including the US is decreasing - and the answer is to restrict international collaborations to find cures ?). I am convinced we have lost time in fighting cancer. Fighting infectious diseases. Fighting Alzheimer's. Fighting stroke.

Is this what we want? Is that what you want.

## Disclosure

The author reports no conflicts of interest in this work.

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