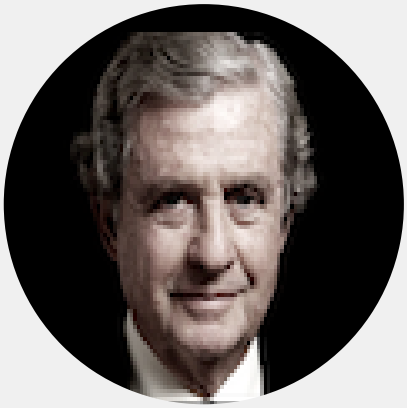
Interview: João Lobo Antunes, Founder, Institute of Molecular Medicine (IMM), Portugal



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João Lobo Antunes, Founder of Institute of Molecular Medicine (IMM), Portugal gives his insights into Portugal's strengths in science and technology, as well as his ambitions to grow IMM into one of the world's leading institutes for genomics.

How would you rate Portugal's scientific output nationwide?

The scientific development of the country just passed its infancy. This growth started when Mariano Gago became the Minister of Science in 2005. I was a member of the original panel to evaluate scientific programs in different Portuguese institutions, and the first step was to send a number of Portuguese students to get their PhDs to various locations in Europe and the US. They then came back, and we established priorities to be competitive, particularly in the European context. For example, a research group studying malaria here just received a grant of almost one million USD from the Bill and Melinda Gates Foundation. They recognize that we can do very good quality science.

You mentioned in your 2012 annual report that Portugal was experiencing a "brain gain".

This is provocative from our perspective. In times of economic crisis, the tone tends to be overly pessimistic. We are finally starting to see some signs of recovery. Many have discussed brain drain in relation to people leaving the country and so forth. It is true that some of those that went to study abroad never came back for career or family reasons. I am not worried about brain drain because the quality of institutes like IMM, Gulbenkian and Champalimaud are enough to attract researchers to Portugal, as has been demonstrated. We can offer the proper ecosystem; when a scientist comes to Portugal, there are many other people here to talk to. There is already a critical mass that allows us to be competitive in that regard. Now we no longer have the need to send students abroad to get PhDs. Of course, that does not preclude the alternative to go there and welcome the opportunity to postdoctoral students or fellowships. I think that employment for a scientist is always difficult, because after PhDs and postdoctoral work, some are not able to maintain the promise to lead scientists with the capacity to develop an autonomous group that can obtain competitive grants.

IMM fosters basic, clinical and translational research to improve outcomes in a number of therapeutic areas. What is the proportional split between those areas of research among your 29 laboratories?

IMM started off as a basic science institute in areas such as cell biology, infection and immunity. I knew that we had to be strong and qualified enough in these areas before we opened the door to clinicians. Little by little, we had clinicians come to IMM with their own projects and research because we are very close to the biggest university hospital in the country, as well as a faculty of medicine. A couple of years ago we created an Academic Medical Center that has created an influx of medical students, medical specialists, and specialists in training. Now we have clinical groups established in IMM in immunology, rheumatoid arthritis, neuroscience, and oncology. We also created BioBank, which has grown immensely and is connected to a network of international BioBanks, so we supply samples to a number of countries for very specific research problems like brain tumors, rheumatoid diseases, dementia and movement disorders. This means we have the ability to supply biological material, be it tumor samples, bones, or blood with very detailed clinical information.

What defines IMM’s entrepreneurial spirit in turning science into commerce?

We started with basic scientists. The culture of the entrepreneur is not natural in them, although some of them should have it. With our current dimension and scale, we are patenting more and more; last year we had six patents. IMM is now effectively integrated into the biggest university in the country, which has created many synergies with the Superior Institute of Engineering (Instituto

Supeiror Técnico). I am very optimistic about the opportunity to work with other university departments.

To what extent does IMM collaborate with researched-based pharmaceutical companies here?

We would like to cooperate more. We have had visits from companies like GSK and Pfizer. Interestingly, the editor of Nature recently came to Portugal and she said she wanted to visit IMM even though she was told about other institutes. She spent all day talking to IMM's scientists. When people come to IMM, they feel vibrancy. The enthusiasm is contagious. Pharmaceutical companies that come to IMM are trained to recognize quality and they immediately understand how bright the researchers are here.

With BioBank, some pharmaceutical companies want access to our samples. More and more we aim for so-called personalized medicine. We also have a very sophisticated diagnostic laboratory, GenoMed, which focuses on genetics and biological diagnosis of diseases. Other kinds of partnerships are serviced. In other words, if a medication should only be given to people with some kind of genomic identity, we can supply that information. In fact, we thought a laboratory like that was no longer a mere diagnostic service but also an independent research projects. That can make a huge difference to pharmaceutical companies. Many big pharmaceutical companies are outsourcing research to laboratories, some of which are connected to universities, others independent, which can perform the research they need to implement medications and drugs. Interaction of industry and sciences is the key. I call these business alliances the fourth dimension of university, which again has some risks.

What role can IMM play in raising the attractiveness of Portugal as a country?

The institute needs exposure. People need to come here, and IMM should promote itself internationally and be competitive. That is what we try to do. Two years ago we went to the European Parliament to show them how a country that is small and goes through periods of difficulty, has disproportionately strong science capacity.

How successful is IMM in attracting EU grants?

To be direct, it is never successful enough. But when we go to international and national calls, we feel very competitive. In our recent call for scientists of the Foundation for Science and Technology, we received 100 percent of the applications. We made a previous selection and selected the ones we thought were very promising by their track record. The life of a scientist is quite brief, and not

everyone who finishes a Postdoc is good enough, even for us.

What is your assessment of the clinical trials situation in Portugal today?

I am the president of the ethics committee of the center. We receive around 30 dossiers to analyze every month for clinical research in this medical center. That is beside the studies that are submitted to the national ethics committee. Sometimes these are big multinational studies, and sometimes the study only requires a handful of patients. We need to obtain fast approvals; they cannot be marred by bureaucratic delays. If a proposal for clinical research is accepted, we need a speedy evaluation from an ethical and administrative perspective. We must move faster than in the past. Portugal's national protection for personal data delays things even further. But we did establish a center for clinical research in this hospital last year, which may speed up the process and help local scientists and clinicians to set up their own research projects. Only disgruntled people claim that clinical research in Portugal is impossible. Every month I approve different pharmaceuticals and medical devices for clinical trials.

You have had a long and distinguished career throughout your lifetime. What advice would you give to a young researcher today?

You have to work and work, and do so in the right environment. I still do almost 400 operations a year. Of course if you do not have the necessary tools it is hard, since science is tool-driven rather than concept-driven. The country already has the proper ecosystem to develop a scientific culture and mode of thinking. The rest is talent and hard work. Science is different from other areas of human activity and certainly the humanities. I would add that the scientists that come to IMM are a different kind of people.

What are your ambitions for the future?

I hope that IMM becomes more international and has more partnerships with industry. I hope we have more PhDs in the industry too. I hope universities, as institutions of learning, are more in tune to the needs of science and society and I hope they obtain more capital that is distributed properly to get out of this crisis. We must fight for this.

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