

Professor from the Technical University of Madrid speaks about plasma physics and the popularization of science



Professor Luis CONDE of the Technical University of Madrid (Spain) has been lecturing for many years on space technology and plasma physics at the [International Polytechnic Summer School](#). And, although in 2020 the School is taking place in a remote format, Professor CONDE claims that his heart and soul are in St. Petersburg. Read about how learning has changed with the transition to online format, the popularization of science, and the importance of staying connected in our interview.

- Professor CONDE, it's so good to see you again! Do share your impressions on how quickly you could adapt to teaching in a new format?

- I absolutely liked that guys from different countries got together in the group. It was fascinating to teach them. But, unfortunately, in videoconferencing mode the time of lectures and communication is quite limited, and it is not easy to evaluate how students assimilate the material. In spite of everything, I tried to keep the format of the dialogue: I asked students questions and answered their questions. Of course, live communication is no adequate substitute for anything. But I understand that the situation of the kind is now all over Europe, and online learning is the best solution for all of us.

- What did you tell students about as part of your course?

- We talked about plasma physics and its role in space engineering; in particular, in the construction of satellites and spacecrafts. Every year I prepare something new for my students: it is unthinkable to tell the same things all the time! Especially true this is in my subject, plasma physics. Scientists always have new ideas, so it is essential to regularly update their knowledge.

- Have you had any students on the course who had not previously studied plasma physics?

- I noticed quite a while ago that at the Summer Schools students have entirely different attitudes towards learning. Here they are more open to new knowledge. Therefore, the guys who mastered a completely different area of studies before my course are not at all uncommon. I believe that a teacher should be open to such students. Our role is to keep them interested in our subject: chances are good that they will study it in more detail in the future.

Another essential point is that St. Petersburg is the cultural capital. Your city attracts many young professionals from different specialties and from different countries. It may well be that a mechanical engineer wants to work in the electronics industry. Therefore, it is important for the teacher not only to give material on the subject, but for the students to study their specific subject. Both of them should be open to other new areas and activities. In this regard, the Summer School is doing an excellent and important job.

- What do you think about popularizing of science?

- This is a extremely important process! As scientists, we often rely on the support of non-governmental foundations of our work, which are based on private voluntary contributions. They are usually more meager than government assistance. So it is very important to speak and write about the achievements of science in an interesting and understandable form for ordinary people. This is our opportunity to increase the budget for research and scientific activities.

On the other hand, the more we talk about science and the practical application of research results, the more we attract concerned people. It is not enough to have a well-equipped laboratory: it must have employees educated in our particular field! To ensure that interest in science does not vanish and young people choose the path of a scientist, it is vital to speak about complex processes in easy language and show how scientific research can improve our lives.

- From the university side, what can we do to popularize science?

- It is not that easy and depends on the situation in a particular country. For example, the situation in the United States is quite different from that in Germany. Personally, I am well aware only of the situation in Spain. But generally speaking, I am confident that universities should take the lead and direct the process of popularizing science.

- In this complicated time, when we are all sitting in front of our computers and cannot meet in person, what would you wish your colleagues and students?

- I cannot express in words how great the importance of live communication is. But we shouldn't complain, because computers make things easier. We must stay connected: the coronavirus pandemic will end, and in science there is nothing worse than losing contact when you are alone in your field and work alone. Video conferencing is quite a good solution!

Many thanks to scientists and biologists who are now working in laboratories on a vaccine! I hope that their efforts will be appreciated and multiplied by the state, which will provide laboratories and people. Today it is more important than ever!

- Professor CONDE, thank you for the interesting interview! We wish you success, luck, and more interested students!

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