

## **“As graduates we should keep a link with the university.”**

**Jordi Vila, a member of UPC Alumni, a graduate in Telecommunications Engineering from the ETSETB, and currently a systems engineer at NASA.**

**His perseverance and education at the UPC and the Institut Supérieur de l'Aéronautique et de l'Espace (ISAE-SUPAERO), Toulouse, France, through an agreement with the ETSETB, have taken him sky-high. At just 23 years of age, he did his bachelor's thesis at NASA and has been working there for three years. Villa is now helping other UPC students to launch their careers by giving them access to NASA.**

### **What is your mission at NASA?**

I am a systems engineer of the space telescope BETTII (Balloon Experimental Twin Telescope for Infrared Interferometry), which we will launch in June 2017 on a stratospheric balloon in order to study the formation of star clusters and chemical evolution during the formation of stars and planetary systems.

### **What are your duties in the project?**

With the system of stability and control of the telescope that I'm working on, we can focus on the stars we want to observe and follow them throughout the night. I have also worked on the design of the software and hardware of the telecommunications system that will be set up between the ground station and the telescope's systems during the launch, flight and landing. Also, I designed the electrical and battery system, which manages the distribution of electricity for the telescope's subsystems.

### **Your job at NASA would be a dream for some of your colleagues.**

It wasn't easy to get it. I knew that ISAE-SUPAERO has agreements with NASA, which is why I chose it. Once there, I contacted researchers in charge of projects that interested me and I told them what I could contribute. My current boss helped me do the bachelor's thesis here over a period of six months and, once I graduated, I carried on working on the same project.

### **So the job didn't actually 'fall from heaven'. Is having clear goals the key to a successful career?**

I don't think having got here is a mark of a successful career, but it's a very good start. Sometimes, having clear goals is the hardest part—knowing what you really want to do and being willing to make sacrifices to achieve it. I'm a very indecisive person, but when I find what I want to do, I pull out all the stops.

### **Indecisive? What did you want to do when you grew up?**

As a child I lived in the country and I wanted to be a farmer, then an astronaut, then a magician... I've always liked animals, so I also wanted to work with horses.

I chose telecommunications because at secondary school I took a subject on electronics and industrial technology, and I liked electronics and software but I didn't want to specialise in it. Telecommunications combines the two fields and it also has many career opportunities. The experience of some graduates of the ETSETB also helped me decide.

**What role do teachers play in the future career of students? Did they have a great influence on you?**

One of the tasks of the university professor is to make a link between academia and the world of work. The good academic education I obtained at the UPC clearly influenced me in my career; it taught me to deal with problems of any nature. However, in my experience, there should be more contact with the industry sector. Increasing the number of professors who also work for private industry, carrying out real projects throughout the degree and requiring more work placement could strengthen this bond.

**The advice from other UPC graduates helped you join NASA. How do you value the role of university graduates with regard to the University?**

We should strengthen the relations between the University and its graduates. It's a win-win situation. Graduates are well aware of the courses and the competencies of the students, so we're able to find well-trained candidates. If we make a good impression, the chain extends upwards, generating confidence in the company. At NASA, for example, other researchers are interested in hiring students from the UPC.

**And now it's you who places other students in NASA's orbit.**

I've advised many students on how to come to the US and get a work visa, and which NASA researchers they can contact. In the project I'm working on, we've hired a student from SUPAERO, and in the coming weeks a student from SUPAERO and the UPC will come to do a master's thesis here. All graduates should maintain the link with their university because it's beneficial to everyone: the company, the students and the university.

**What do they think of Catalan students at NASA?**

We have a good reputation. They know that we have a solid theoretical education, we are motivated and we have initiative. I would say that American engineers have more practical experience either in companies or in university projects, and they are more specialised. We lack a little practice in the first few years, but the degree deals with more topics from a theoretical viewpoint, which allows us to pick up any thread, however small, and get up to speed quickly.

**Is there life after NASA? Now that you've reached such a high point, what are your next goals?**

I was really lucky to start my career here. It allows me to learn from the best. I want to stay a few years, but I'm a restless and curious person. Now that I've worked at a federal organisation, I'd like to see what processes, management and project development are like in the private aeronautical industry or in telecommunications companies like those in Silicon Valley.