



Interview



IRINA
Rybalchenko
@PeriodicAND

University of Girona (UdG) is a public institution integrated into the system of Catalan state universities. The university was opened in 1991, but its prototype has existed in Girona since 1446. It was then that the Estudi General training center was created, which had the right to award academic degrees in such fields as rhetoric, grammar, philosophy and theology, law and medicine.

In 1991, a special Decree of the Government of Catalonia established the new University of Girona.

The University is considered one of the main engines of the regional socio-economic sphere. At the same time, the university is quite cosmopolitan and open to international cooperation, it offers a variety of educational and research programs for students and scientists from all over the world.

Quim Salvi, Rector of the University of Girona (Spain), is a computer science graduate of the Polytechnic University of Catalonia with a doctorate in industrial engineering and an award in engineering from the University of Girona. Professor at the Department of Computer Architecture and Technology, Member of the Computer Vision and Robotics (VICOROB) Research Group, Visiting Professor of Ocean Systems Laboratory at Heriot-Watt University (UK). He is the main researcher of several national and European projects in the field of computer vision and underwater robotics. In his interview, he told us about the main educational and research programs of the university, its goals, and objectives:

-What educational programs are offered at UdG?

-UdG offers education in all areas: art and humanities, social and legal sciences, natural sciences, architecture, technology, and medicine. In total, we offer 46 different undergraduate degrees and 14 programs that provide for the so-called "double diplomas" (dobles titulacions).

In addition, the University of Girona offers 47 master's degrees, of which 22 are inter-university, that is, they are coordinated with other universities.

I would like to highlight the program - Erasmus Mundus (a student exchange program created by the European Union to increase the European students' mobility and improve the quality of higher education by financing academic cooperation between Europe and the rest of the world). We offer two programs - tourism and materials science, which are highly valued by the European Union.

Regarding doctoral degrees, UdG coordinates 14 programs, six of which are inter-university. Therefore, we can say that our university is present in almost all knowledge areas, and most



Quim Salvi

Rector of the University of Girona

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of the students' scientific research can be carried out within our university.

I would also like to mention the double degree program. This area is becoming more and more popular at our university: a student who studies one and a half to two years longer (the standard study program is four years) can receive two diplomas in related professions. True, this offer is geared towards students who are academically brilliant and can withstand the progressive and intensive learning rate.

There are campuses on our university territory, which are

engaged in both research and teaching.

The subjects of study are very diverse, they include natural resources, tourism, nutrition, communications, medicine, cultural heritage, composite materials, industrial technologies, computers, robotics, sociology...

UdG also has a system of affiliated schools, where one can study in the following professions: physiotherapy, physical and sports activities, performing arts and multimedia, marketing and logistics management. Tourism is offered by

the affiliated schools, as well as, the Faculty of Tourism at the UdG.

-What faculties are the most popular among students today?

As in all of Catalonia, the area that is most in demand is healthcare and medicine. Law, science and psychology are also in high demand. Faculties that attract nearly twice as many applications as positions offered are social education, psychology and dual degrees in ADE and law, as well as biology and biotechnology. The highest demand in the field of medicine.

The TOP-10 degrees are Nursing (372), Physical Therapy (335), Medicine (306), Psychology (181), Law (170), Business Administration and Management (152), Computer Engineering (135), Advertising and Communications (121), Accounting and finance (114).

There were also increases in the number of students studying history (50 compared to 38 last year), engineering (69 compared to 53 last year) and marketing (81 compared to 37 last year).

-What are the benefits of Erasmus? Which countries do you have agreements with? Which countries are most popular with Erasmus students?

-UdG belongs to nine international universities' networks. Today UdG has 767 French, 178 Italian and 138 Romanian students; The first Ibero-American country in terms of the number of students is Colombia, we have 108 Colombian students.

-Are there many students from Andorra at the university?

-Today we have 38 Andorran students. This data refers to UdG full-time students. Some students are in the Erasmus program or similar programs.

UdG has historically maintained a very close relationship with Andorra and participated in many POCTEFA projects that link France, Spain and Andorra. Currently, it still supports two POCTEFA projects, one of which focuses on the quality of mountain rivers, especially in relation to the presence of plastic.

In general, UdG has developed research projects in the fields of tourism, natural heritage, arts, administrative sciences and education. For example, students of the Faculty of Tourism have been engaged in the development of Andorra's tourism positioning strategy for several years. We also jointly participated in international conferences on sustainable development and the environment, which received a wide response.

Another example is the study of contemporary art in Andorra by professors Joan Bosch and Francesc Miralpeix, which became the basis for a reference book and led to the Andorran government cooperating with the University of Girona.

Evidence of the connection between UdG and Andorran educational institutions is the UNIVERS project, which is a

network of cross-border universities that participated in the Erasmus KA2 competition for European universities. We are convinced that the future of the European university system lies in cross-border international alliances and we want to work on the Pyrenean Axis to connect universities located near this territory.

-UdG has a strategic plan focused on artificial intelligence. Could you briefly talk about it?

-UdG has decided to anticipate the events that will determine the future and be unique in the "sum of intelligence." We recognize that a combination of natural, collective and artificial intelligence will determine the common thread of learning, science, culture and human evolution in the future. UdG wants the new sum of intelligence paradigm to benefit people. We need to think more in terms of the growth of humanity than the loss of human relevance in the face of technology.

This synergy or sum of intelligence is thus a new source of opportunities that UdG wants to develop for its community and especially for students so that they will adapt to knowledge and professions that do not yet exist.

Thus, UdG wants to deploy a model of teaching, research and knowledge transfer based on a kind of bridge between humanism, science and technology.

-How many students find jobs after graduation? Do you have employment contracts with companies? Is there a support system for job searches?

-Supporting students in finding employment is one of our main tasks. For this reason, we have developed an extensive program of study internships. The job search support system is managed through JobTeaser, which is a special platform for companies and institutions that allows our students to see offers and basic requirements. The platform also has data on training and employment-related events and conferences. Currently, it counts 600 European universities, 70,000 companies and 2.5 million students.

Finally, UdG has a career guidance program with qualified staff that offers activities to support labor market integration through group and individual training and tutoring.

In terms of self-employment, since 2018, UdG has launched a series of programs and events aimed at promoting entrepreneurship, supporting the creation of start-ups and creating new enterprises through special training workshops.

-How did the global crisis affect the Spanish education system and UdG? Are there financial aid programs for underprivileged students? Do your students receive any scholarships?

-This question does not come from the present. We must go back to the 2008 crisis to assess how it affected university education. Increasing the cost of education could lead to disparities that would affect access to higher education and would mean

economic discrimination. For this reason, the Generalitat has reduced the tariffs, although they are still among the highest in Catalonia. At the same time, UdG offers scholarships and grants in addition to regional and state institutional initiatives.

In the 2021-2022 academic year, 180,000 euros were allocated and 30 grants were awarded. The Nando and Elsa Peretti Foundation contributed €12,000 and Banco Santander gave €54,000 to co-finance the payments. 29 grants with a total of 21,508 euros were awarded to help disadvantaged students.

Caixa Foundation and CaixaBank provide 15,000 euros for this assistance, and 48,410 euros was also budgeted for ancillary activities, running costs and student council management support.

Concerning grants to encourage student participation, a total of 12 grants with a total value of €15,250 were awarded. Finally, UdG has allocated a total of €8,000 for participation in the Santander Progreso program and €3,850 for participation in the Santander Connect program.

It is worth noting that UdG welcomes students of all nationalities. 80% of students come from Girona and its regions. Many students come from Catalonia and Catalan-speaking regions including the Balearic Islands, Valencia, Northern Catalonia and Andorra.

As I have already said, today at our university there are more French, Colombian, Romanians and Italians, but this year in UdG classes, you can meet Ibero-American, Kenyan, Korean, Uzbek and Chinese students (Macau), as well as Sudanese, Indian, Iranian and Bangladeshi students.

-Talking about innovation in education, what could you say about your university? What methods do you use?

-UdG has been working in the field of innovative education for many years. Teaching innovation programs were launched many years ago and relate to cooperative, project, and problem-based learning, as well as gamification. These innovations are most often applied in areas such as physics, mathematics, law, and medicine.

All the accumulated experience was integrated into the UdG21 project (UdG of the 21st century), which is responsible for the innovative



learning development at our university.

These forms of learning are becoming increasingly popular. For example, all medical research for students is organized based on problem-based learning (aprenentatge basat en signal or ABP).

I shall give an example. Students studying medicine are given a specific task, and they have to find a solution using materials provided by teachers and based on their own initiative also. Thanks to this innovative technique, our students' final exams are among the best in Spain.

The University of Girona is a university with a "human face". We like to say that we are a University where the proximity between the



«A combination of natural, collective and artificial intelligence will determine the common thread of human evolution in the future»

teachers and the students allows a greater adaptation between the development of the classes and the pace of learning and, in general, a much more personal relationship. We are a medium-sized university in a medium-sized city, and, I repeat, we are more focused on close human relations between teachers and students, which, however, is also typical of all mountainous territories, including Andorra.

-Is research conducted at your university? In what areas? Can you please give examples of interesting recent research?

-The University of Girona has a special position in terms of research on all indicators, including the number of published scientific articles in influential journals and the number of defended dissertations. About 1,100 articles were published in prominent journals, and about 323 research works were carried out, including 81 international ones.

UdG has 67 research groups with the SGR status (quality standard of the Generalitat of Catalonia) and 7 TECNIO groups (accreditation of the Generalitat of Catalonia).

102 doctoral dissertations were defended during the past academic year, 29 of them with international recognition and 70 of them via videoconference.

La Fundació Conocimiento y Desarrollo (CyD) places the UdG in tenth place in Spain in terms of its research

output, specifically highlighting the fields of chemistry (third place) and industrial engineering (fourth place).

There are a total of 84 universities in Spain (50 public and 34 private). In the last year, the research results that had the most impact were related to the fields of health, water, engineering, chemistry, heritage and tourism.

As an example, we can talk about artificial intelligence, the latest studies on human embryo development; the design of a new enzyme (you can find this article in Science Magazine), the analysis of the state of the environment on the Catalan coast, the creation of a digital tool to prepare therapeutic reports, the sustainable regeneration of reverse osmosis membranes etc.

Financing received from European funds during 2022 amounted to 4.5 million euros allocated for various R+D+I programs on 17 proposals submitted for 2021 and 2022 years with the participation of the University of Girona.

-You were a visiting professor at the Ocean Systems Lab at Heriot-Watt University (United Kingdom). Could you tell us about this experience?

-Of course! In the 2007-08 academic year I had a sabbatical period and I decided to move to Edinburgh for a year to join the Ocean Systems Lab at Heriot-Watt University (HWU).

At that time, my research focused

on the processing of images of the seabed for navigation of autonomous underwater robots. The Ocean Systems Lab was, and is still one of the main «European references» in this subject. Together with the University of Girona, we were part of several joint research projects. In addition, two universities (HWU and UdG) together with the University of La Borgogne (France) organized an Erasmus Mundus Interuniversity Master in Computer and Robotics Vision.

The experience was very profitable and further promoted the joint research activity between two universities with new international research projects, and numerous doctoral theses and joint scientific articles.

-Could you tell us about your latest research of several national and European projects in the field of computer vision and underwater robotics?

-My research is based on developing computers and methods of vision for industrial processes, medical image and underwater robotics. I have been a lead researcher in various national and European projects that have contributed more than 2 million euros to the university. I have been director of 19 doctoral theses and founding partner of 2 technology-based companies. I am the author of 59 articles in journals and 142 reports at national and international congresses, which accumulate more than 10,000 references to Google Scholar.

Currently, I especially focus on the development of magnetic resonance imaging processing algorithms (MRI) in applications for medicine. Recent research projects have been aimed at biomarkers development for helping and monitoring multiple sclerosis disease, which is a neurological disease that affects the brain and nervous system. It is the second cause of disability among young people after car accidents. It is characterized by a gradual degeneration of the brain produced by the loss of myelin of the neurons.

My research is especially focused on the processing of MRI's images to detect this degenerative effect to be able to accompany and facilitate the task of monitoring and diagnosing the disease by doctors. ≡

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(+376) 353 424 / (+376) 379 769

(+376) 747 747

laportella@andorra.ad

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