ParisTech

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CHRISTIAN LERMINIAUX
President of ParisTech

EDITORIAL

As 2020 gets underway, ParisTech has reaffirmed its desire to continue its development in China and has been exploring new opportunities for partnerships with French companies as well as ways of diversifying its catalogue of professional training courses. During a meeting in Beijing in January, Mr Xuejun Tian, Chinese Vice-Minister of Education and leader of the Franco-Chinese high-level dialogue on human exchanges, confirmed that he sees ParisTech as a strong partner and an "exemplary brand in terms of cooperation on engineering training". China wishes to reinforce cooperation with ParisTech both in terms of teaching and research. The China Scholarship Council (CSC), a long-standing, highly valued partner of ParisTech, also expressed a desire to consolidate its links with our schools. Thanks to Laura Villette, our representative in China, ParisTech is also exploring the possibility of collaborating with the Ministry of Emergency Management and China Hi-Tech to develop professional training courses in both countries. Discussions were also held with French companies that might be interested in working with the Franco-Chinese institutes managed by ParisTech (Chimie Pékin, ICARE and SPEIT). And to conclude, another very positive sign of our presence in China was the recent launch of the Chimie Pékin "Research and Innovation" business club with Arkéma, TOTAL China, Saint-Gobain and Solvay, which was attended by Frédérique Vidal, French Minister of Higher Education, Research and Innovation.

FEATURED The European University project, ATHENS and doctoral training: ParisTech's commitment to Europe

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Could you update us on the European University project?

AM: The EELISA (European Engineering Learning Innovation and Science Alliance) European university project is a flagship initiative for the three ParisTech schools involved – the Ecole des Ponts ParisTech, Chimie ParisTech and MINES ParisTech. At the end of February we will be submitting a new dossier containing our mission statement, in which the directors of the participating schools outline their shared long-term vision for engineering qualifications in Europe and the place of engineers in today's society.

MCB: The project builds on the work of the ATHENS network, which brings together a number of leading European universities. It aims to promote the value of French engineering qualifications in a European context and is being coordinated by the Polytechnic University of Madrid in partnership with the Budapest University of Technology and Economics, the Polytechnic University of Bucharest, Istanbul Technical University and the University of Erlangen–Nuremberg. The scope is broader than that of schemes like Erasmus, in that it encompasses three key dimensions:

- strong ties with industry partners
- links between teaching and research
- an international focus

In concrete terms, what does the dossier contain?

AM: It sets out a three-year business plan (2021-2024) and our 10-year vision. The European Commission plans to finance 24 new universities in addition to the 17 which have already received funding following the first call for proposals. Through our involvement in this project, we want to play a leading role in creating something unique and promote the quality of European higher education in a landscape dominated by the Anglo-American model.

MCB: It presents a qualification which is more than just a collection of credits, and which is more focused on the skills employers expect European engineers to have.
We are working with the European Network for Accreditation of Engineering Education (ENAEE) to design a single qualification that nonetheless offers students a wide variety of study routes, options and exchange opportunities. The language of teaching is English, but internships add a multilingual dimension.
Students are encouraged to attend courses at different establishments, but course content is also made available online.
Our aim is to make these training opportunities attractive to young people, and to young women in particular.

What makes this training opportunity innovative?

AM: It's more than just a new qualification; we will be putting forward a new framework for training European engineers. Ultimately, this could become a model for the departments of technical universities across Europe, which attract tens of thousands of students.

MCB: The project really is one of its kind and is very different to the engineering master's courses run by universities. It is characterised by close ties between the university and industry as regards designing courses and defining target skills, and a broad range of activities that provide students with the tools they need to address modern-day challenges. Greater student mobility also means we have integrated apprenticeship schemes to appeal to companies across Europe.
We are also giving careful consideration to the entry criteria in order to establish a fair selection process and fee structure across different countries. We believe the qualification represents an excellent means of increasing the social openness and diversity of our campuses.

What about the research aspect of the project?

AM: Although research activities are not directly eligible for funding, research is a key element of the project. In this respect, the flagship project is IDEAL (European soft skills for PhD: enhancing transversal skills through innovative doctoral courses) which brings together four ParisTech schools (AgroParisTech, Arts & Métiers, Chimie ParisTech and MINES ParisTech) and four other European science and technology universities which are also members of ATHENS. The IDEAL project has two main objectives: firstly, to create an active database of existing doctoral courses oriented towards soft skills and employability in order to foster exchanges between partners and disseminate best practice, and secondly, to provide new, innovative training opportunities in this area.

MCB: EELISA is primarily a teaching project because it is part of the Erasmus scheme. However, research is also important, with links between teaching and research established via internships in laboratories and the organisation of conferences and seminars. The qualification focuses on two broad themes:
• resilient, sustainable, green cities
• smart and sustainable industry

Both areas should provide a basis for future research projects.

Ultimately, what is ParisTech's goal in Europe?

AM: I would say it's about building on the 20 years of cooperation established through the ATHENS network, which is doing an excellent job of encouraging students from the various partner institutions to undertake exchanges. In ParisTech we have a natural framework within which we can work together on topics relating to engineering in an environment of mutual trust and understanding, and that's something which facilitates new initiatives.

MCB: We see this training project as a fantastic way of promoting a sense of European identity and citizenship. In order for today's young people to truly feel European, it is essential that they have access to training programmes that reflect this.

PORTRAIT

MARIE-SÉGOLÈNE NAUDIN
Delegate of the ParisTech Teaching Committee

A bit about my background

I have a Master's degree from the Neoma Business School (formerly ESC Rouen) with a major in Executive Leadership and Agile Management. During the early years of my career I worked in Human Resources, mainly focusing on training, recruitment and support for individuals and organisations.

After several years working for consultancy firms, I decided to apply my skills to the world of higher education, in particular in the areas of educational innovation, management and leadership.

Alongside this, I also work as a lecturer in engineering, which means I am fully familiar with the inspiring and fast-paced environment that characterises engineering schools today.

My view of ParisTech and the challenges ahead

For almost 20 years, ParisTech has been striving to promote the excellence of France's graduate engineering schools.

The current drive for change that ParisTech is embracing is particularly promising for the future of the foundation and its schools and members and their students. I see several challenges ahead of me:

• ParisTech understands that **educational innovation** is key to the future of higher education. Given the academic excellence of each of the schools and the calibre of students they attract, it is only right that we seek to implement best practices in teaching. To do this, it is essential that we pay increasing attention to what is being done in the top educational institutions, and that we strengthen and develop our links with prestigious universities throughout the world. Ultimately, our goal must be to make even greater use of effective and innovative educational methods, for example soft skills teaching.

• Another priority is to **increase synergies** and cooperation between the ParisTech schools, both in terms of sharing experience and joint training initiatives. By increasing transversality and highlighting the multidisciplinary nature of its network, ParisTech is working to extend the reach of each of its schools and to promote the value of French engineering qualifications.

• Finally, and perhaps most importantly, ParisTech **genuinely cares about** the well-being of its students, whatever their situation and background, and aims to provide them with the support they need throughout their studies to fulfil their goals and dreams.

Why the role caught my attention and what I hope to get out of it

There were lots of reasons why I accepted this role, not least the opportunity to engage in so many rewarding relationships, and the wealth of fascinating challenges to be addressed.

I truly wish to showcase and promote the value of French graduate engineering qualifications and the excellent training programmes offered by the ParisTech schools.

Furthermore, working with the other ParisTech commissions promises to be an exciting opportunity thanks to both the range of challenges to be tackled and the all-encompassing approach that the transverse nature of the organisation allows. This applies both to students and academic staff, and means we can find real solutions to the problems encountered by each group.

It is a joy to be part of an ambitious collaborative project driven by a true desire to succeed. Developing the sharing of best practice between the different schools and their students, encouraging cooperation and joint projects, supporting educational innovation, assisting students and helping them to break down the barriers they encounter – there are so many inspiring and promising avenues to explore.

What I can bring

Over the past years, in my role as lecturer in an engineering school I have taught innovative new subjects and tutored many engineering students. Today, I am keenly aware that students and schools alike require innovative and stimulating classes and courses, and that we need to develop methods that allow students to reach their full potential and that help staff to effectively pass on their skills and knowledge.

To successfully tackle the challenges ahead, the commission needs somebody to act as an interface between all of the parties involved. One of my key ambitions is to increase collaboration, support and openness within the inspirational context of the ParisTech network.

THE LATEST FROM PARISTECH

COMMUNICATION

The Communication Commission has launched a series of mini-videos that ask the question: "What makes a ParisTech engineer?" The aim is to interview students, alumni, school directors and recruiters and find out what makes the ParisTech engineering courses one of their kind in France, and even in the world. Christian Lerminiaux, Director of Chimie ParisTech and President of ParisTech was first in the hot seat to give his view on what makes a ParisTech engineer. The videos (in French) can be found on the ParisTech YouTube channel.

DIVERSITY

The results of the *Cordées de la réussite* ("Ropes to success") survey carried out in the ParisTech schools were presented during the November meeting of the Diversity Commission. In figures: thanks to the involvement of 4 schools (AgroParisTech, Arts & Métiers, MINES ParisTech and the Ecole des Ponts ParisTech), a total of 7 "ropes" have now been set up as part of the mentoring scheme, which brings together around 280 tutors and 1,200 high-school and/or sixth-form students each year. The initiative focuses on mentoring, academic support, cultural activities and scientific projects. Difficulties reported include insufficient human resources and lower subsidies. Among the successes mentioned were: passing on a desire to pursue scientific study and the keys to doing so, and mentees becoming mentors themselves.

TEACHING

There has been a change in the organisation of the RACINE project – the inter-school training network involving various ParisTech engineering schools which aims to promote educational innovation and create synergies between teaching staff. Previously run by Télécom Paris, the network has now been handed over to AgroParisTech and will be led by Valérie Camel and Geneviève David. We would like to thank the previous leaders, Sarah Lemarchand and Ikbal Mounir, for their commitment and valuable contribution to the network.

INTERNATIONAL

At the Salon for Higher Education in Siberia, held in Paris between 12th and 14th November 2019, the Ecole des Ponts ParisTech, ESPCI Paris and MINES ParisTech signed or renewed their double-degree agreements with Novosibirsk State University (NSU). NSU was founded in 1959 and brings together 38 research institutes and around 5,000 researchers, 2,500 lecturers and 7,600 students. Historically, NSU was ParisTech's first partner in Russia, and ParisTech was NSU's first partner in France. AgroParisTech and Chimie ParisTech had already signed a double-degree agreement.

Visit of Mr Laurent Bili, French Ambassador to China, to Wuhan (18/12/2019)

Huazhong University of Science and Technology (HUST) in Wuhan is a long-standing partner of ParisTech and is home to the China-EU Institute for Clean and Renewable Energy (ICARE), which is run by MINES ParisTech on behalf of ParisTech. Laurent Bili, the recently appointed French Ambassador to China, visited the Institute in December 2019. The aim of the trip was to reaffirm the value that the two countries place on Franco-Chinese collaboration in the sphere of education.

FOUNDATION

Safran has renewed its backing for the Franco-Chinese SJTU-ParisTech Elite Institute of Technology (SPEIT). Safran has been a partner of SPEIT since 2013, and on 12th December 2019 the group renewed its support within the scope of the sponsorship provided by the ParisTech Foundation. Safran underlined its desire to help provide engineers in China with top-level training and familiarise them with France's scientific and industrial culture.

INTERNATIONAL ACTIONS

Agreements	
Renewal of framework agreement with IME (Brazil)	
Renewal of framework agreement with PUC Javeriana (Columbia)	
Office exchange agreement with Tongji University (China)	
Visits	
Recruitment trip to Brazil	7-11/10/2019
Recruitment trip to Argentina	14-16/10/2019
CESAER AGM (Saclay)	16-18/10/2019
Recruitment trip to China	21-25/10/2019
20th anniversary of IFCIM (Shanghai)	26/10/2019
Recruitment trip to Russia	5-8/11/2019
Fact-finding trip to Ghana (KNUST, UMaT)	20-25/1/2020
Reception of delegations	
Launch meeting for IDEAL (Erasmus+ strategic partnership)	6/11/2019
Reception of a delegation from Sun Yat-sen University (Guangzhou, China)	20-21/11/2019

AgroParisTech

Since 2011, AgroParisTech has been working to make its research more widely accessible. At least 46% of the scientific articles published by staff connected with the school between 2012 and 2018 are now available online in an open-access archive: HAL-AgroParisTech. As part of its efforts to ensure that anyone interested (researchers, the general public, etc.) can access its research projects and results, on 1st January 2020 AgroParisTech announced a five-year roadmap and policy outlining its commitment to opening up the world of science.

Arts & Métiers

Breaking down technological barriers relating to the modelling of "slender structures" used in complex industrial systems and training PhD students: these are the two key objectives that teams from the LISPEN laboratory at the Lille campus are addressing within the framework of the European THREAD project.

Chimie ParisTech

On 18th December, Denis Gratias, professor of quantum physics at Chimie ParisTech and Emeritus Research Director at the IRCP (Chimie ParisTech/CNRS) was elected to the French *Académie des Sciences* (Academy of Science) as a member of the "mathematical and physical sciences and their applications" division.

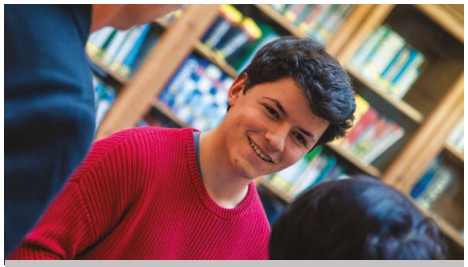
Ecole des Ponts ParisTech

On 6th February 2020, the Ecole des Ponts ParisTech is holding the 6th edition of its *Une nuit pour entreprendre* ("Entrepreneur for a night") event, which is a key element in the school's drive to raise awareness of entrepreneurship. Students will have one night to join forces and design and develop an innovative project before pitching it to a jury early the next morning. The competition is open to students from other establishments too, in particular the ParisTech schools, the Université de Créteil, the Université Gustave Eiffel and HEC Paris. Registration opened at the start of February. Find out more here (in French).

ESPCI Paris

The 34th *Forum Horizon Chimie* ("Careers in Chemistry" fair) will be held in Paris on 6th February. The annual event is attended by professionals from the chemistry industry as well as students, and is organised by students from four graduate engineering schools, including Chimie ParisTech and ESPCI Paris, both members of ParisTech. This year around forty companies, research institutes and scientific associations will be available to advise students looking for placements, employment or PhD funding.

https://www.espci.fr/fr/actualites/2020/6-fevrier-rdv-au-forum-horizon-chimie



MINES ParisTech

High-school pupils, university/*prépa* students, parents and anyone else interested in the school are invited to attend the MINES ParisTech open day on 7th March to find out about the establishment and its courses and meet current students and teaching staff.

Register online here.

NB: Four other members of the Université PSL are also holding their open days on 7th March: Chimie ParisTech, (ESPCI Paris), the (ENS) and (EPHE).

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