

ParisTech

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CHRISTIAN LERMINIAUX
President of ParisTech

EDITORIAL

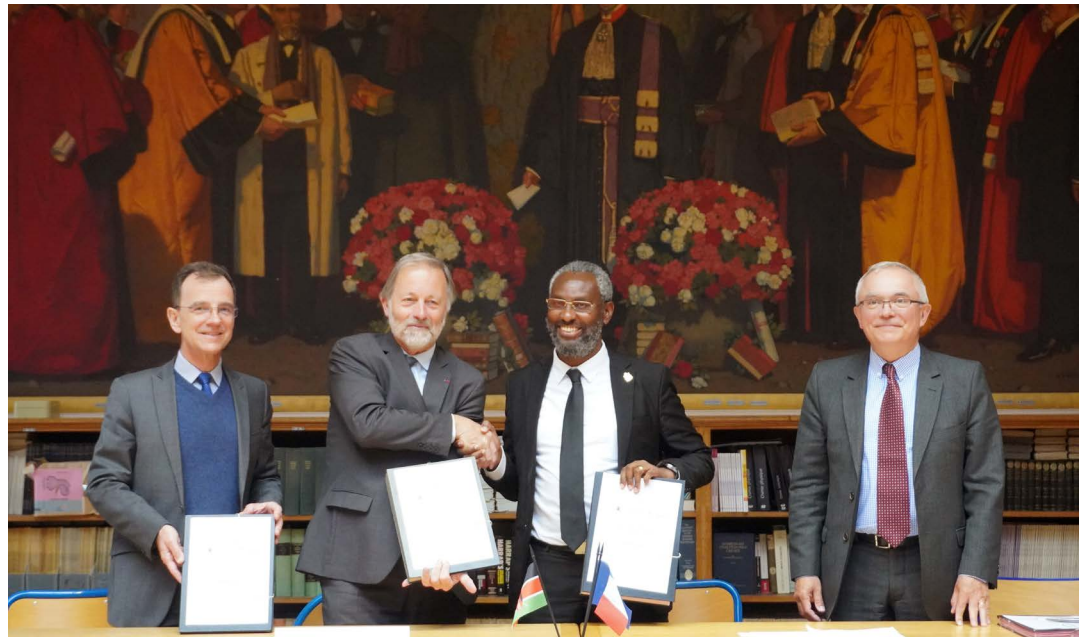
Welcome to the 16th edition of the ParisTech newsletter, which focuses on the network's connections with Africa. The ParisTech schools have long-standing partnerships with a number of institutions in French-speaking Africa, and have recently joined forces to explore other opportunities for collaboration across the continent.

Africa needs young professionals and engineers who can drive sustainable development in industry. This was the motivation behind a new Tripartite Partnership Agreement concluded between the University of Nairobi in Kenya (the country's top-ranked university and the leading institute in East Africa for science and technology), four of the ParisTech schools (AgroParisTech, Chimie ParisTech – PSL, École des Ponts ParisTech and Mines Paris – PSL) and CentraleSupélec/Université Paris-Saclay. The four-year partnership will focus on developing the UoN's Engineering and Science Complex, a center of excellence for engineering in Kenya.

This is the first time that a group of prestigious French engineering schools have formed a partnership to support an institution in English-speaking Africa. It's an ideal way of showcasing how science and engineering are taught at top higher education institutions in France, and we can't wait to get started!

FEATURE

ParisTech and the University of Nairobi join forces to enhance engineering education



On 11 May, four of the ParisTech schools (AgroParisTech, Chimie ParisTech – PSL, École des Ponts ParisTech, Mines Paris – PSL), along with CentraleSupélec/Université Paris-Saclay, signed a Tripartite Partnership Agreement (TPA) with the University of Nairobi (UoN).

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PROF. STEPHEN KIAMA
Vice-Chancellor
of the University of Nairobi

What is your international strategy?

CL: From the outset, the strategy of the ParisTech engineering schools has been to promote the value of the French engineering education system and train students – both French and international – to become the business leaders and decision-

makers of the future. Today's graduates must be prepared to work in any country in the world. In the past we've focused a lot on emerging countries, through partnerships with universities and joint training programs and institutes and so on. It is clear that Africa, and English-speaking Africa in particular, is set to play a strategic role in our world's future. Kenya has great potential, and the University of Nairobi is the country's largest university, making it the ideal partner for us. The number of French companies operating out of Kenya has tripled in

just a few years, and we also want to support these companies – and others in the country – as they grow.

SK: The international strategy of the University of Nairobi is to host more international students and to recruit more international faculty. This partnership is a unique opportunity, allowing us to expose our students and faculty to more international opportunities than we can offer today. Internationalization is part of the agreement. Indeed, we have traditionally formed partnerships with English-speaking countries. Now our students will get





the opportunity to go to French-speaking countries. The partners of this Tripartite Partnership Agreement have been selected by the French Embassy because they are the best in their domain and it was difficult for us to choose just one.

What do you hope to achieve through the partnership?

CL: It has to be a win-win arrangement. This partnership with the UoN is an opportunity to showcase our successful training model, in particular the way we use research- and innovation-based learning to produce graduates who are not just highly skilled, but also highly employable. Our students go on to become engineers, researchers, managers, and entrepreneurs. In line with the French Tech initiative, the creation of startups is now an integral part of all our programs. In developed countries this type of training model, where students acquire two sets of skills in parallel – in science and engineering, and in management – is quite rare. We hope that through this partnership the French schools will be able to guide the UoN in training the managers and leaders that its country needs. We also want

to collaborate closely with the UoN on academic and scientific projects. The four ParisTech schools have many tools to offer in all five focus areas of the partnership – governance, curricula, research, innovation, and internationalization. Together, we will assess which tools are relevant for the University of Nairobi and how it can adapt them to the local context.

SK: We have studied a number of engineering faculties in the world. We've observed how they're run, and how they address internationalization. I know we can learn from them, particularly how universities have good relationships with the private sector, especially startups. In this area we need to make our students more employable and to create jobs. Many companies are expanding. Students should have a disruptive approach.

We see this partnership as an opportunity for learning not only for our students and faculty, but also for French students and staff too. Indeed, the University of Nairobi is a good partner: a leading university in Kenya and in East Africa. It's a great opportunity to develop international connections in both faculties (science and technology; engineering).

One of the first goals of the partnership is to establish the Engineering and Science Complex, funded by a sovereign loan from AFD and the Government of Kenya. It's an opportunity to develop a new approach to teaching and learning, and reflect on governance issues and curricula. It's an entry point for short- and long-term partnerships and opportunities for young people. Food security and climate change for instance are common areas of interest.

You have visited some of the ParisTech schools. What lessons did you learn?

SK: The Problem-Based Learning (PBL) approach and entrepreneur skills are very interesting. It is necessary to combine technical skills and soft skills, including in finance and management, so that students learn to deal with human problems as well as infrastructure problems.

Links to industry are important too: working closely with companies in group discussions so that students know why they are hiring, what their needs are, and what gaps there are to fill.

The labs and equipment are also quite impressive. Infrastructures are also important.

We need to have partnerships both within the university and outside. That's what the university and the government want.

What can the French schools learn from you?

SK: Every society's approach is different. Our students and staff learn with a different approach because we address local problems in Africa. This cooperation may help French students open up to a different approach and a different culture. They will have to think about our needs. In Kenya there are actually more opportunities for startups. The students could form teams. Companies can develop with French and Kenyan people in their teams.

ZOOM



FRÉDÉRIC POIRAUD
Marketing and International
Development Manager at the
École des Ponts ParisTech

What is your school's strategy in Africa?

One of the central pillars of our strategy is internationalization. We have links with all the fastest growing regions in the world, especially Africa.

Our actions cover several areas:

- Developing partnerships with leading universities to undertake joint training (especially engineering programs) and research initiatives;
- Running academic capacity-building programs;

- Promoting the French engineering education system as a model of excellence around the world;
- Contributing to the development of local economies by fostering the emergence of new skills and supporting the growth of sustainable, environmentally friendly industries and sectors.

At a local level, we adapt our strategy to the reality of the areas in question and the maturity of our partners there. Our goal is to leave a mark – in a good way – and make investments that have positive consequences for the local population and economy, for the people we're working with, and for the environment. The principles of sustainable development underpin all the school's decisions and partnerships.

Tell us about one of your flagship projects.

In 2016, the Mauritanian government decided to reform its national engineering education system. Three existing schools were merged to form the École Supérieure Polytechnique de Nouakchott. We supported the schools and advised them on their governance model, internationalization, the evaluation of training modules, the involvement of socio-economic stakeholders in training programs, quality management, and continuous improvement. The project ran for almost 6 years, concluding with the filing of an accreditation request with the CTI*.

And how does the partnership with the University of Nairobi fit in with your strategy?

We've played a leading role in the project from the outset. It's a way of contributing to the development of the French engineering system and promoting it on the world stage, developing our partners' skills, and encouraging more young women to pursue a career in engineering. All these aspects are closely tied to the environmental transition and our social responsibilities as an institution, and reflect our overall strategy.

The needs of the University of Nairobi are fully in line with our aims and skills. It's a win-win partnership. We have things to share, and the partnership encourages us to challenge ourselves, especially when it comes to innovation. Kenya is a "startup nation" where innovation and entrepreneurship are right at the top of the economic and political agenda.

We believe there is a lot to be gained from working alongside engineering schools who share our vision and values as co-members of the ParisTech network. We can support one another and share best practices and examples of how these can be applied in the real world.

*French national committee responsible for accrediting engineering schools

THE LATEST FROM PARISTECH

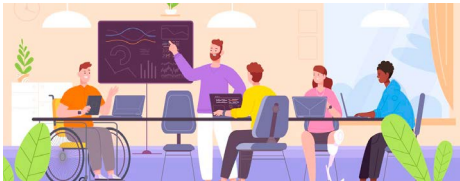
COMMUNICATION



French higher education magazine publishes a special edition all about ParisTech

On 2 May 2023, French magazine Le Monde des Grandes Écoles et Universités published a special edition all about ParisTech. The edition highlighted the strengths of the network as well as the challenges it faces as it seeks to promote French engineering programs and their focus on excellence, complementarity, innovation, social diversity, and internationalization. The magazine features interviews with the schools' directors, students, and industrial partners, and is available either in print (copies can be found at all the schools) or [on our website](#).

DIVERSITY



Alumni survey on diversity in the workplace

Following the survey carried out last autumn on the integration of international students and their experiences of diversity during their time at ParisTech, the network recently ran a new survey entitled "Alumni in the workplace". All ParisTech graduates were invited to respond and give their opinion on how well their course equipped them to manage diversity, whether relating to social background, gender, nationality/culture, religion, or disability. Today's young professionals are increasingly confronted with issues relating to diversity, so the network was keen to hear from them and use their feedback to improve support for current and future students.

EDUCATION



Research-based teaching at the ParisTech schools

Several months ago, the Education Commission began an investigation into research-based teaching at the ParisTech schools, asking what role research should play in engineering courses. Many different topics have been studied, including laboratories, lecturers and researchers, research-based study programs, and the number of PhDs, practical sessions and classes. Each school presented its strengths in this area as a source of inspiration for other members of the network. A summary of the various pedagogical approaches will shortly be available on the ParisTech website.

INTERNATIONAL

CESAER

Student Challenge 2023

"Contributions of Science and Technology to Sustainability"

CESAER, the Conference of European Schools for Advanced Engineering Education and Research, has launched the 2023 edition of its Student Challenge. Students are invited to submit innovative scientific and technological projects that address the Sustainable Development Goals, and the winning team will receive a prize of €20,000. Candidates are encouraged to form teams comprising students from different levels of study (engineering students, PhD candidates, etc.), of different genders, and from different countries, and must submit a written summary and a video presenting their project. ParisTech can endorse one project (deadline for submissions: 15 June). Final deadline for submissions: 31 July. [Full details are available here \(in French\)](#).



On Saturday 24 June ParisTech is holding a special event on the Arts et Métiers virtual campus. Entitled "Grande École Engineering

Program – Meet the ParisTech schools", the event involves all seven member schools and is open to international students, staff from overseas universities, representatives of the French higher education system (diplomats, Campus France representatives, etc.) and so on. Attendees will discover how engineering is taught at the various schools, and will have chance to chat with representatives and students from the schools. The event is free of charge, but you must register in advance if you wish to attend. [Find out more here](#).



The 2023 ParisTech International Admission Program is in full swing. March saw a delegation travel to Colombia to meet ParisTech's partner schools, and a similar trip was made to Brazil in May. A webinar organized by the seven schools on 6 June also attracted a good number of students. In the past, the program was open to candidates from partner universities in Argentina, Brazil, Colombia, and China. More recently, it was opened up to individual candidates too – in 2016 to students in China, and then in 2022 to students anywhere in the world. Applications can be submitted from 1 June until 21 September 2023. More information is available on the [Study With Us website](#).

INTERNATIONAL ACTIONS

International Agreements

Renewal of the MoU with Fudan University (China)

Signature of a Tripartite Partnership Agreement (TPA) with the University of Nairobi (Kenya)

International Missions

Promotional trip to Colombia 6–10 March 2023

Promotional trip to Brazil 22–26 May 2023

Visiting Delegations

University of Nairobi 10–11 May 2023

Nanjing University 12 May 2023

NEWS FROM THE SCHOOLS



AgroParisTech

For the first time in 2022–2023, international students admitted to the AgroParisTech engineering program were able to join an apprenticeship training scheme during their first year of study. Five international students signed an apprenticeship contract for the year, including one student from the Côte d'Ivoire (Institut National Polytechnique Felix Houphouët-Boigny) and two students from Senegal, one of whom was already enrolled on a course in France. AgroParisTech was invited to talk about the scheme at the 2022 Campus France meeting, as part of a workshop entitled "Attracting talent through apprenticeships".



Chimie ParisTech – PSL

New dual-degree agreement with INP-HB (Côte d'Ivoire)

On 15 March, Chimie ParisTech – PSL signed a dual-degree agreement with the Institut National Polytechnique Houphouët-Boigny (INP-HB) in Côte d'Ivoire. The agreement was signed in Yamoussoukro during a visit by Virginie Lair, Director of Academic Programs, and Fethi Bedioui, Director of International Relations. Under the agreement, second-year engineering students from either school will be able to take second- or third-year classes at the partner institution. During the visit, the two schools also discussed the possibility of recruiting Ivorian students who have completed preparatory classes for direct entry into the first year at Chimie ParisTech – PSL.



Institut d'Optique

From Tunisia to SupOptique: a student's perspective

My name is Amal Ouanes. I'm from Tunisia and I'm a first-year student at the Institut d'Optique (SupOptique). I completed a preparatory course at IPEST (Institut Préparatoire aux Études Scientifiques et Techniques), a selective Tunisian higher education institution that allows students to apply to graduate schools in both Tunisia and France. I joined SupOptique after successfully passing the CentraleSupélec competitive entrance exam for international students. I chose this school because it's one of the top-ranked engineering schools in the field of photonics, which I'm passionate about. As a student here, I really appreciate the working environment, the variety of subjects on offer, and the lively extra-curricular scene that's allowed me to meet lots of new people!



Arts et Métiers

Creation of an Arts et Métiers campus in Morocco

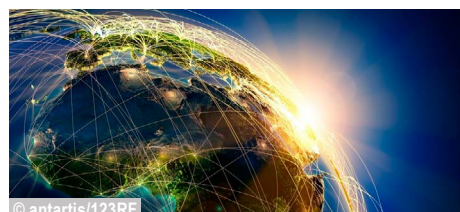
Arts et Métiers has joined forces with the Moroccan Ministry of Industry and Trade to create an overseas campus in Rabat, Morocco. The École Arts et Métiers – Campus de Rabat (EAMR) will train socially and environmentally conscious leaders for the country's industrial sectors. The project stems from a shared desire to meet the needs of companies in Morocco and help them transition towards more responsible, more sustainable industrial practices. At term, the EAMR will be home to 1000 students, offering places for 200 engineers (graduate level) and 200 third-year undergraduates (*licence professionnelle* vocational degree course) every year. Find out more on the [Arts et Métiers website](#).



École des Ponts ParisTech

A unique capacity-building initiative in Côte d'Ivoire

For the last four years, the École des Ponts ParisTech and the Institut National Polytechnique Houphouët-Boigny (INP-HB) have been co-running a vocational master's course (*mastère professionnel*) in Urban Planning and Transport. In 2022, the two schools signed a tripartite agreement with the CGE (*Conférence des grandes écoles*), under which the École des Ponts ParisTech will assist INP-HB in getting its training programs accredited by the CGE, providing support until INP-HB is able to complete the application process independently. This is the first project of its kind, and as such paves the way for similar capacity-building actions in other countries, in particular Senegal.



Mines Paris – PSL

The "Chair for Industrial Economics of Emerging Africa" is a teaching and research chair co-hosted by Mines Paris – PSL and the Mohammed VI Polytechnic University in Morocco.

The key research topic of the chair is the creation of jobs in Africa and all factors relating to this: natural resources, climate/energy, structural change, the agricultural revolution, urbanization, foreign investment, external relations, industrialization in the digital era, health, and training. The PhD candidates and post-docs split their time between Ben Guerir and Paris and are awarded either a PhD in economics from Paris Sciences et Lettres or a PhD from the Université Clermont-Auvergne (Cerd). Find out more on the [Cerna website](#).

ParisTech, the major engineering schools network

The complementary nature of the areas of excellence of the various schools provides our students, researchers and partners (academic and corporate) with an exceptional consortium that offers unique transdisciplinary opportunities. ParisTech also has strong international teaching and research links via its many partnership agreements.

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