

EDITO



Who could believe, on visiting our premises, that our School is a venerable 90-year-old? Born in 1924 under the name of *École Nationale Supérieure du Pétrole et des Combustibles Liquides*, it has undergone numerous changes to become what we know today as IFP School, an international school of world renown. Even though it is still based on the same values, its "DNA", and proudly maintains its traditions, our School's policy is firmly geared towards the future.

Since its beginnings, IFP School has always been strongly industry-oriented, involving industry in the development of its training programs. It has always implemented a teaching approach that gives wide scope to practical application and experience on the field. Since its creation, it has welcomed students of diverse backgrounds and has encouraged cultural mix and complementarities of experience. And yet, what changes there have been over those 90 years! IFP School was considered a pioneer back in 1996 when it started to develop apprenticeship programs. They turned out to be particularly adapted to an industry-oriented school and have since been adopted by numerous engineering schools.

With 350 external professors, most of whom are still in active employment in industry, the School has been able to adapt rapidly to the evolution of energy and engine technology. IFP School today gives state-of-the-art training which includes the very latest technological innovations.

However, all that is nothing compared to the challenges for future development generated by the expectations of new generations of students and by the new information technology that is making its way into education. Indeed, for several years now, a teaching revolution has been slowly creeping into our School: flipped classrooms, e-learning, individual study paths, group work and distance learning ...

We have just passed another important milestone: the launch of our first [MOOC](#) (*Massive Open Online Course*) on sustainable mobility. The stakes are high, equal to the effort that has been put into creating it. Its aim is to spread the School's international reputation and to attract new talent by giving potential students a taste of our training programs and the opportunity to test new teaching approaches. Such initiatives are, however, extremely time-consuming to develop and require significant funding. I take this opportunity, therefore, to remind you how important it is for us to receive the support and solidarity of former students, particularly through the Alumni Fund, in order to develop further projects of this kind.

In conclusion, our School is today in the midst of an ever-changing environment which is full of uncertainties but it can always rely on its long-standing values to seize opportunities and to reap the benefits of current changes.

Happy Reading!

Philippe Pinchon
Dean
IFP School

BRIEF

A serious game in the 1st IFP School MOOC

On 3 November 2014, IFP School will launch its first *Massive Online Open Course* (MOOC) on the subject of sustainable mobility ([Read the press release](#)).

Entitled "**Sustainable mobility: technical and environmental challenges for the automotive sector**", it will be taught entirely in English and will last 4 weeks from **3 to 30 November 2014**.

The course uses a variety of materials: videos, quizzes, forums etc. But IFP School has pushed innovation even further by including a *serious game*, a first in the history of MOOCs.

This video game serves not only to train students, but also to develop and validate their skills through activities that are fun, immersive and interactive.

This tool will be used from the second week of the MOOC onwards in the form of three modules. Each module gives participants the opportunity to apply the knowledge they have acquired during the week's course and a chance to be assessed. Like in a game, they will be awarded points as they progress.



*For its first MOOC, IFP School has developed a serious game.
In the first part of the game, participants are hired by a European refinery.*

In the first module, participants are placed in the heart of a refinery in Europe called "Mooc Energy". Their task is to optimize the fuel production (gasoline and diesel) taking into account European specifications. At the same time, they have to meet the demands of a major client in terms of quality and quantity of products to be supplied.

In the second module, participants have to test the quality of three types of diesel: US Diesel, Premium and EN590 and assess their impact on the environment. On an engine test bench, they have to run several tests to identify the fuel with the highest yield, the one that generates least noise and the one that produces the weakest particle rate.

Finally, the third module of the *serious game* aims to promote awareness of the need to reduce CO₂ emissions. At the end of the working day, participants have to choose a car to travel from the refinery to their homes and to select the corresponding fuel and the way it is produced. They will then see the level of CO₂ emissions produced by these choices.

"This *serious game* is a real life case study. Our aim is for participants to be the actors of their training, learning by trial and error throughout the MOOC," explains Olivier Bernaert, Project leader for IFP School's "Educational Impetus" policy and one of the lecturers of the MOOC. "It is *learning by doing*."

To take part in the *serious game*, follow the MOOC by registering at <http://mooc.sustainable-mobility.ifp-school.com/>. Registrations are open until 16 November.

FOCUS

A green application to promote awareness amongst students of sustainable development issues

Within the framework of Integration Week that took place from 1st to 5th September, IFP School set up an interactive workshop for the new students on sustainable development.

Over two days, students took part in a learning exercise that combined posters and a mobile application developed specifically for the occasion.

Entitled "Sustainable Development", the application was designed in English for Android and Apple (N.B.: It is not available to the general public). During the eight stages of the exercise, participants discover the main challenges for sustainable development in exploration-production, processes in the energy sector, powertrains and products and economics and management.

"We created this application to give our students a sense of sustainable development," said Eric Tocqué, Supervisor of the Energy and Processes program and leader of IFP School's Sustainable Development Club. "Our aim is to give information and arouse awareness about sustainable development as soon as they join the School."

This workshop is part of IFP School's policy to promote sustainable development amongst students and staff and to show clearly action taken by the School in this field.



Students from the 2015 Class learnt about the challenges of sustainable development through a mobile application developed by IFP School for Integration Week.

Organized in mixed-program teams, students had to study a series of posters and answer random questions simultaneously on the application in a limited time (multiple choice questions, "drag and drop" exercises on pictures or texts, puzzles, etc.).

"The application is a sort of treasure hunt. Students move from poster to poster and discuss amongst themselves which is the best answer: it involves real teamwork!," explains Lucie Dhorne, in charge of Information and Communication Technologies in education.

Each time the students answered correctly, they won points to recharge a virtual battery.

At the end of the exercise, they were awarded bonus points for each proposal of how to further integrate sustainable development within the School, whether in their training programs or in School life in general.

Amongst the ideas suggested were: reduce the number of plastic cups used, make compost by recycling the School's green waste and cycle to School.

"This exercise is based on responsibility, one of the School's values," continues Eric Tocqué. "Beyond the fun aspect of the application we aim to make the future players of the energy sector aware of the importance of sustainable development and urge them to adopt a responsible approach from their very first day in the School."

Interview with Jamila Amahdar

Corporate Tutor



In the Class of 2015 there are 151 apprentices, 142 of whom are following an engineering program and 9 of whom are doing a research Master.

Each apprentice is appointed a Corporate Tutor who acts as his/her educational advisor within the company.

Corporate Tutors are sometimes former students of IFP School. This is the case of Jamila Amahdar (MOT, 2010), a specialist in diesel after-treatment systems in the Engine control department at Renault.

She shared her views with us on the role of a Corporate Tutor.

1. How did you become a Corporate Tutor?

I became a corporate tutor when Mélanie (MOT, 2013), a young apprentice with 4 years of higher education, joined our team.

At that time, I was working on after-treatment systems and Mélanie came to work on after-treatment systems for diesel fuels.

I was her co-tutor. She started in the company in January 2013 and stayed for two months and then, after returning to the School, came back for 6 months from July to the end of December 2013 and did a final period in the company from March to June 2014.

2. What do you consider to be the role of a Corporate Tutor? What is the relationship between an apprentice and his/her tutor?

Our role is to give them the opportunity to discover the professional world and to give them responsibilities by delegating a technical activity to them.

We allow them to apply their technical knowledge. We also accompany them in building their career plan. It is a turning point for them: they are leaving the School to discover the professional world and they have lots of questions going through their minds. Embarking upon a professional life is not always easy: they start and they are no longer students. Being an apprentice gives them a different status!

I make it a point of honor to build up a relationship of confidence. You become a mentor. You develop a long-lasting relationship. With Mélanie for example, she has now been hired by a service company but we are still in touch. We offer guidance during the apprenticeship, but also for many years beyond.

3. What do you expect or ask of the IFP School apprentices you supervise?

I expect a big contribution on their part, tremendous scientific curiosity, and, above all, lots of questions about how to approach the job of an engineer.

Apprentices need to be extremely autonomous as we are not always available.

They must behave in a professional (and not a familiar) manner. We are no longer in school, we are in a professional environment. They must learn to communicate as professionals.

The biggest challenge for apprentices when they first arrive in the company is to become familiar with the workplace, the company culture and its overall policy.

They need to be able to adapt to all kinds of situations. They will be meeting many different people from various backgrounds and cultures. They need to be able to communicate effectively with everybody!

4. What are the advantages for young engineers of being apprentices?

Being an apprentice will give them the opportunity to work on real technical subjects.

Apprentices work on interesting projects that will allow them to discover what it means to work as an engineer. They will have to show their worth.

They will also work alongside other engineers and experts and these encounters will help them to define their own career path.

5. On the other side, what does the presence of a young apprenticeship engineer bring to the dynamics of your department or your company? What have you learnt from the apprentices you have had under your wing?

Their presence enables us to prioritize our work differently as we can entrust them with larger scale projects. They will have time to see them through to the end.

With apprentices we also learn to constantly take a fresh look at what we ourselves are doing. With experience, our automatic reflexes give us a certain confidence that doesn't always allow us to sit back and rethink.

Apprentices are capable of imagining different solutions to a problem. They will raise questions that we had not thought of.

I like passing on my know-how. There is always a feeling of pride when you see the apprentice has understood and, above all, delivered rapidly.

6. What do you think of the relations between IFP School's *CFA Energie et motorisations* and the company?

Relations are really good and communication works well.

IFP School apprentices are a safe bet. With their scientific background, we are fortunate to have excellent apprentices.

7. Were you an apprentice yourself?

Yes, indeed. I was an apprentice in the mechanical design department at Renault. I did a 2 month period then a 6 month period. My apprenticeship was a clear asset in my job search.

ASSOCIATION

90th anniversary of the Alumni Association: Gala dinner on 5 December



The IFP School Alumni Association (AAID) will celebrate its 90th anniversary on **Friday 5 December 2014** with a dinner cruise on the Seine.

This very special event will begin at **7:30 pm** aboard the *Mirage*, one of the *Yachts de Paris* boats.

Don't miss out! **Registration will be open in October.**

The Alumni Association welcomes new students

For the second year running, the IFP School Alumni Association supported the School during Integration Week which took place from 1st to 5th September 2014.

The Association welcomed IFP School's new students during the Discovery Trail which was organized in the School on 1st and 2nd September.

The Association gave the "Solidarity" prize to the "Alger" team during the prize-giving at the end of the Integration Week on Friday 5th September at the *Château de Vert-Mont*.



Cultural conference "Paul Dumanois"

The Alumni Association is organizing a conference on Paul Dumanois (1885-1964), founder of the *École nationale des moteurs à combustion et à explosion*, on **Thursday 2 October 2014** at 5 p.m. in IFP School's Lecture Hall TA14.

Paul Dumanois, his grandson (who shares the same name), will recall the life and works of this extraordinary engineer who has left his stamp on the world of powerplants.

For more information on this event and the program of the Association's cultural activities, take a look at the [News](#) section of the Alumni website.

NEWS

Great success for the 5th Graduation Ceremony

The 5th IFP School Graduation Ceremony was held Saturday June 14th 2014 in the summer sunshine on board the river boat *Le Paquebot* in Paris. On this occasion, the School honored 221 students of the 2013 Class.

The event brought together more than 470 people, including relatives of the graduates and members of IFP School staff.

The ceremony was supported by 12 long-standing partners of IFP School: Axens, Beicip-Franlab, Cepsa, Esso, GDF Suez, IFP Training, Perenco, Prosernat, Renault, Schlumberger, Technip and Total.



The event was marked by an unprecedented activity called "Photofolies", which gave the graduates the chance to "capture the moment" with a photo shot in a studio installed in the lower part of the *Paquebot*.

In addition, graduates had the opportunity to meet with representatives of the IFP School Alumni Association, who encouraged them to join the Association.

[See the photos of the ceremony](#)

IFP School students kick off the academic year



Over 300 new students joined IFP School on Monday September 1st. The first week was given over to discovering the School and its surroundings.

The Class of 2015 was welcomed on the first morning by Philippe Pinchon, Dean of IFP School. In mixed-program teams, the students then took part in various workshops to discover the School and its surroundings. They were able to meet representatives from the Town Hall's "Welcome to Newcomers" department and representatives of the "Médiathèque de Rueil-Malmaison", the town's multi-media Library.

On Wednesday evening they celebrated the new academic year at the *Maison de l'Europe* with a reception given by the Town Hall of Rueil-Malmaison (in the presence of Patrick Ollier, the Mayor of Rueil-Malmaison and Member of Parliament for Hauts-de-Seine).

Their integration continued on Friday with a discovery trail through the town of Rueil-Malmaison in the form of a scavenger hunt organized in collaboration with the Tourist Office.

The Integration Week ended with a sports and fun challenge at the *Château de Vert-Mont*.

[See the photos of the Week](#)

IFP School joins Twitter



The School set up a new [Twitter](#) account in September. Keep up to date with IFP School news and share your tweets!

Don't hesitate to send us your suggestions: newsletter.ifp-school@ifpen.fr.