

CASE STUDY

Knovel[®]

École Centrale Paris

Nurturing practical problem-solving in engineering students



SUMMARY

Knovel helps École Centrale Paris prepare students for a career in engineering, instilling best practices in finding and using reliable technical insights for applied engineering problems.



ELSEVIER

“Today, the goal is not only to instill knowledge to students but to teach them to seek information and apply it.”

– Mr. Jean-Marie Barbiche at École Centrale Paris



MR. JEAN-MARIE BARBICHE

is the head of the library of the École Centrale Paris, one of the most important engineering schools in France. He is a graduate of the École nationale des Chartes and of the École nationale Supérieure des Sciences de l'Information et des Bibliothèques as State Government Library Director. He has worked in the École Centrale Paris since 2008. In this first job, he helps engineering students and staff to find relevant information they need by acquiring databases and documentation.

Extending the tradition of engineering leadership at École Centrale Paris

Jean-Marie Barbiche, head librarian of the École Centrale Paris, is a problem solver. He has a special talent for finding the technical information essential for the school's students and faculty to complete their difficult work. More importantly, Barbiche is committed to passing this talent on to École Centrale's students. That's why he teaches them to use Knovel.

École Centrale Paris is one of the three most prestigious science and engineering schools in France. Founded in 1829, the school has been a training ground for some of the world's most talented men and women, and its alumni have achieved success in government, academia and industry. Yet, as Mr. Barbiche sees it, for École Centrale students to remain world leaders in the engineering disciplines, the school needs to embrace today's advances in information technology. "I have seen," says Barbiche, "how current research practices ignore the advanced tools of databases. It is my fundamental challenge to make researchers discover all they can from using them."

Giving students tools to solve any challenge

To Barbiche, searchable, online technical resources like Knovel are essential to modern scientific study. According to Barbiche, "It's very important for us to provide tools that students will use everywhere, and a database like Knovel is very important." The goal of École Centrale is not to train each student for a particular

job. Instead the school and the librarian strive to teach students techniques and skills they can apply to any complex engineering problem. "Companies want our students to be scientifically aware of both problematic subjects and methods."

At the beginning of the past year, Barbiche offered Knovel-based training to École Centrale engineering students in bio-mechanics. "Their professor asked for some characteristic quantities and I showed [the students] how to find them in Knovel. The students found the online resource very useful and much more efficient than other tools they wanted to use [i.e. Google, journal articles, etc.]" Using the information they found through Knovel, the students found solutions to the questions posed by their instructor. The students' professor, Barbiche recalls, was also "impressed by the power and efficiency of Knovel."

The librarian first learned of Knovel from fellow research specialists and encouraged École Centrale to subscribe to the online technical resource "for finding and taking advantage of data." Instructing students in methods for gathering knowledge is a very important and hot topic and also one of the reasons Barbiche's training sessions focus on methodological best practices.



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_ MR. JEAN-MARIE BARBICHE
École Centrale Paris

“With the amount of scientific discoveries,” the librarian recounts, “the faculty knows that it’s impossible to teach everything to students. Today, the goal is not only to instill knowledge to students but to teach them to seek information and apply it. With the right tools and the right methods, students can adapt to any working environment.”

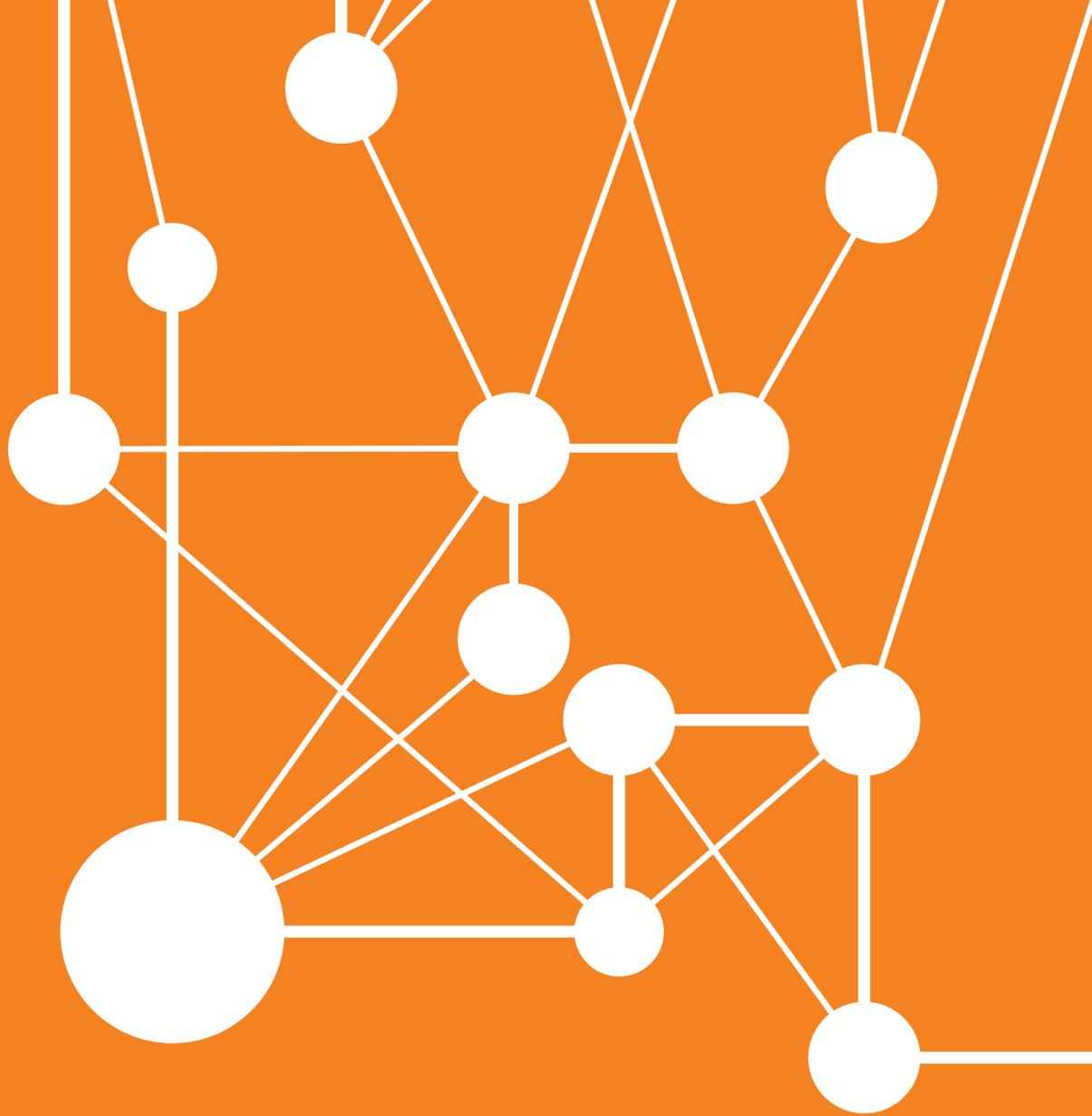
Distinguished alumni like Gustav Eiffel, Andre Michelin and Armand Peugeot are evidence that École Centrale has long

instructed its innovative engineers and entrepreneurs to pursue concepts with the global impact of design in mind. This emphasis can be seen today in Centrale’s study abroad programs at prestigious institutions such as Cambridge University, MIT, Stanford, Princeton and other institutions, many of which also subscribe to Knovel. Centrale also requires that students participate in a placement year at prominent companies inside and outside of France including Air Liquide, Total and Schlumberger to name a few.

Education without borders

The future of academics and industry will be essentially borderless, and nowhere is that fact more evident than in the growth of the Internet and its extensive network of information.

“I know that the main expectation of employers is the ability to work in project mode using specialized tools from anywhere in the world,” say Barbiche. “Knovel enables students to become familiar with this type of approach.” By helping École Centrale students develop these problem solving skills, Mr. Barbiche ensures that today’s students uphold the school’s tradition of engineering leadership throughout the world, both online and off.



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