

High school students discover the world of research

Each year, the Institut NÉEL organizes a series of one-week visits for junior high-school students. Our aim is to give these young students a glimpse of the work that people do in a CNRS laboratory, by introducing them to a selection of subjects from our research programmes.

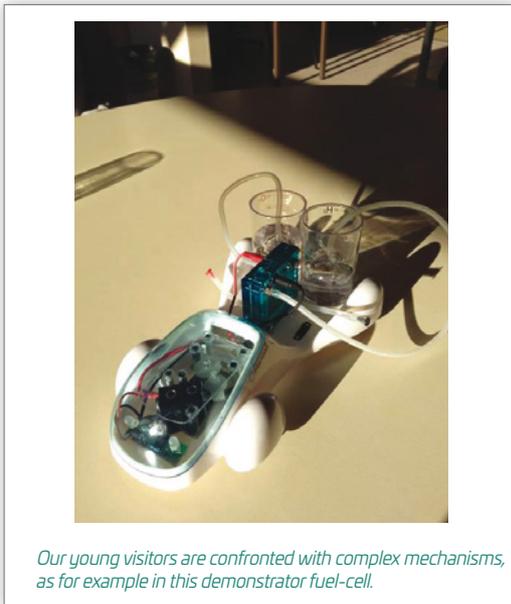
In France, a week of work experience is required during the “*classe de troisième*”, which is the last year of the junior high-school (*collège*). This gives all students 14-15 years old a short introduction to the working world. Our laboratory has been participating in this programme for 10 years now. We provide a concrete introduction to the varied professions exercised at the Institut NÉEL, as well as the courses of study that can lead to them.

Supervised by a small team of tutor-mentors, the young students get direct contact with our personnel. They discover the varied professions represented here: technician, engineer, researcher, information-technology specialist, administrative person, librarian... In small groups and accompanied by staff members, the students learn about these professions, via talks, demonstrations and visits to our research and technical teams. Dialogue is key in this experience.

Over the years our young invitees have been introduced to a great variety of subjects. They are



An experience around low temperatures.



Our young visitors are confronted with complex mechanisms, as for example in this demonstrator fuel-cell.

clearly captivated by X-ray diffraction, transmission electron microscopy, cryogenics, liquefaction, crystal growth... Their faces light up with delight when, for example, they see experiments with liquid helium, perfectly colourless and looking just like water, or when they encounter superconductivity via levitating objects!

We take 20 to 30 young students a year, who come to us from different schools and different regions of France, and who are put into groups of five. We have chosen to be totally non-selective in our acceptance policy: students are enrolled on the criterion of “first come, first accepted”. This means they have to send their application and cover letter very early, as the sessions fill very quickly each year. We even receive some candidacies already in June for the following

school year. In over 90% of cases, the students who come to these sessions at the Institut NÉEL are highly motivated and hard-working, and have a background of good results at school.

To provide optimal conditions for these mini-voyages of discovery, we have developed a programme that divides the week into approximately 18 time-slots that last between a minimum of 90 minutes and a maximum of 6 hours (for a short project). This timetable requires the participation of about 15 instructors, with a wide range of expertise. A general call for volunteers goes out each year and the Institute’s staff have always been very responsive: We have never found ourselves with the problem of an unfilled time-slot ! Yet the task is not necessarily an easy one, since our participants need to adapt their descriptions and explanations to this quite young audience.

We also provide follow-up and help to the students for the writing of their reports. This is done mostly during the daily luncheon breaks and on their last afternoon, Friday. Also on the Friday our team organizes an afternoon snack that gives our students a final opportunity to do a scientific experiment. They get to try their hand at what we call molecular gastronomy: together, we “cook” an ice-cream cake using liquid nitrogen, and eat it there and then!

The very positive feedback we receive from these students and their teachers encourages us to perpetuate this project. The Institut NÉEL would like to thank once again all the members of staff who year by year involve themselves – with the same enthusiasm – in the smooth running of these “visits of discovery”.

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FURTHER READING...

Further information is available on our website:

<http://neel.cnrs.fr/spip.php?rubrique1161>