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Building a culture
of
science
and
innovation
in
society

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An essential ambition for our country

“ Because the future of our societies is so tied up with advances in knowledge, ever greater vigilance is required of us. In the modern world, research can no longer be dissociated from collective responsibility.

Basing our judgements on the competence of experts alone, reducing the scope of debate to their sovereign opinions, is to risk a bias which neither political leaders, nor ordinary citizens, nor scientists themselves are prepared to accept.

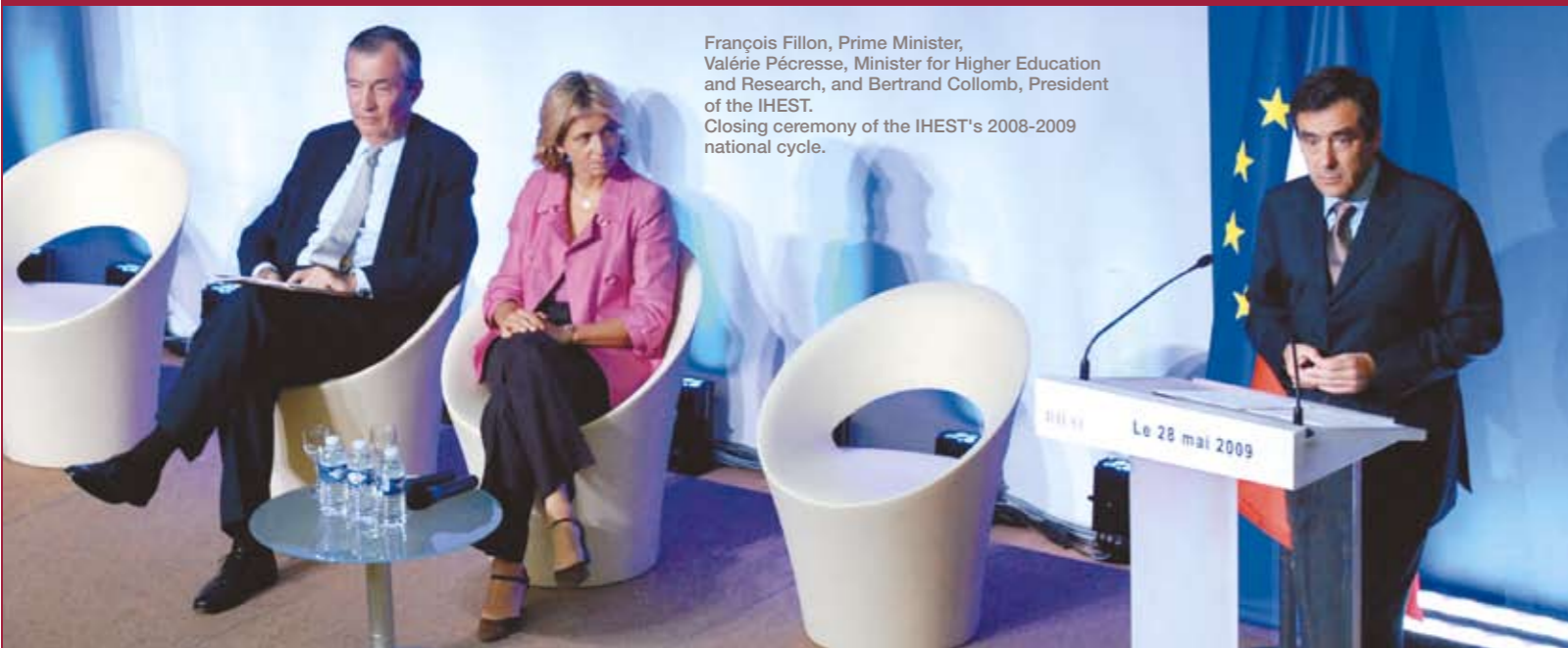
This is why IHEST students, given the diversity of their involvement in society, perform what I would describe as a “civic function” in their relations with researchers. For a year you have enriched the IHEST and its network with your experience and now you are going to disseminate its culture and scientific maturity to those around you.

I see here an essential ambition for our country: to move beyond a utilitarian vision of science and establish a better relationship between scientific development and the complexity of public expectations. ”

François Fillon
Prime Minister

Ministry for Higher Education and Research,
28 May 2009
Closing ceremony of the IHEST's 2008-2009
national cycle, Hubert Curien intake

François Fillon, Prime Minister, Valérie Pécresse, Minister for Higher Education and Research, and Bertrand Collomb, President of the IHEST.
Closing ceremony of the IHEST's 2008-2009 national cycle.



President's message

In the increasingly competitive environment of a globalised economy, the future of each country depends to a large extent on its scientific and technical capacity, and the potential for innovation deriving from it. But, paradoxically, at a time when science has never been so present and necessary, a growing distance and lack of understanding has opened up between science and public opinion. If we are to build this "knowledge society" so necessary to our global competitiveness, we need, without indulging in naive optimism or gloom-mongering, to find a realistic way of reconciling our society with science, technology and innovation.

Science inevitably brings change. Various societies' attitudes to change differ depending on the culture and experience of each. And the problem is not so much science itself as the capacity of our social organisation to accept and control change, its pace and attendant risks. The crucial issue, then, is how best to create the interface between science and society.

Helping to reduce this lack of understanding and reconciling science and society is the role the Institut des Hautes Études pour la Science et la Technologie (IHEST) has set itself. The recent establishment of the IHEST in (2006) reflects the government's determination to develop a collective intelligence where science is concerned. Founded as part of the National Pact for Research, the IHEST is fully involved in finding a new mode of governance for scientific research.

The IHEST seeks to shape and drive public debate on scientific issues and society's perception of them. In other words, the IHEST aims to establish a shared culture on scientific issues and their interaction with society.

To achieve this, what better way than to encourage a cross-fertilisation of approaches and cultures? The IHEST addresses those with leading roles in society - whatever their field of activity - who not only want to deepen their understanding of the issues raised by science but are also committed to contributing to discussions on the objectives, methods, results and evaluation of scientific research.

The ambition of the IHEST is to create a network of former students alert to the issues raised by research and able to disseminate a new scientific culture within society. Because of the quality of the people it recruits, its contributors, the tasks it undertakes and their influence, the IHEST has emerged as a vital forum for reflection and sharing on science and society.

Bertrand Collomb,
President of the IHEST

IHEST

Non-departmental public body founded in April 2007, and a centre for training, exchange and reflection, the IHEST welcomed its fourth annual intake in September 2009. Appointed by ministerial order, the students - some with a scientific background, others not - are top-level actors from all sectors of social activity. They come to engage in an enlightened debate on science, technology, innovation and their social impacts, with a mission to participate in rebuilding trust between science and society.

The IHEST uses the content of its training cycles to foster public debate on the objectives of scientific research and the issues it raises, and to promote good relations between science and society. It builds and disseminates a collective culture of science, research and innovation through its network of students, and also by organising debates, "Meet the experts" events, regional sessions open to the general public, and summer schools.



Thinking and acting outside the box

The IHEST's national course provides an opportunity for students to fully acquaint themselves with changes in science and technology and changes in society, to grasp their complexity and become aware of the fragility of the balance between them. It encourages them to think afresh about these relationships and take a different view of situations characterised by other types of complexity, such as risk situations.

This dynamic, which the IHEST refers to as "shared intelligence", is based on intense intellectual stimulation of the students and on-going constructive discussion among them and with the various contributors. Each student, whatever their background and position in society, learns to rethink their relations with others and change their attitude accordingly. This open and reflective approach is the result of the environment created by the IHEST, free of the competitive and hierarchical relationships that normally characterise professional activity. Students are able to develop a creative approach, difficult to adopt in an institutional framework, and an ability to mobilise their skills and engage more deeply, in professional and social terms, with scientific/societal issues.

The IHEST offers a pluralist vision of concepts and actors and therefore invites many key figures from all sectors of society (including elected representatives, businessmen, scientists, the press and NGOs) and organises many meetings, in Paris, in the different regions of France and abroad.

The IHEST's policy also includes the engineering of culture shocks, to cause students to review their positions by taking on board the diversity of approaches to "ordinary" everyday matters.

Marie-Françoise Chevallier Le Guyader
Director of the IHEST

Committed students

The IHEST places its students in a situation of "shared intelligence"; it fosters a collective dynamic based on the comparison and contrast of different people's approaches and experiences, and on the skills of listening, reflection and questioning. Teaching people to ask the right questions in complex situations and ensuring dialogue between different cultures is the IHEST's primary objective.

The pluralist composition of each year's intake is the key to high-quality debate within the group: each year, the IHEST gathers a panel of women and men from very different walks of life, both scientific and non-scientific. They are selected on the basis of their motivation and capacity to form a group representing the diversity of relations between science, technology and society.

The IHEST has also welcomed students from other countries, in particular Switzerland, Belgium and Algeria.

The cycle, which lasts approximately 36 days, is an opportunity for each student to be re-envisioned and take part in creating a socially rooted network.

Thanks to its network of former students, which grows year by year, the IHEST can prepare for future public debates and help break down the barriers between science and society.



Taking time to reflect at Arc-et-Senans: the group is preparing a collective question to put to a contributor.

A scientific approach and an attitude of openness

The IHEST promotes an attitude of openness by capitalising on diversity of approach and the sharing of experience.

The course seeks to foster:

- a culture based on a renewed vision of science and technology,
- the sharing of the scientific approach, a critical and curious spirit, a culture of scepticism and listening,
- familiarisation with controversy and public debate, within the year group and outside of it.

Since 2006, many employers have shown confidence in the IHEST:

Enterprise and the media

Aéroport de Paris, Air Liquide, Alcatel, Banque populaire, Bouygues Telecom, EADS, Eau de Paris, EDF, France Telecom, Groupe Bayard, L'Oréal, Renault, Rhodia, Safran, Sagem, SNCF, Société Générale, Asset management, Solvay, Thales, Total, La Recherche, Le Figaro, Industrie et Technologies, France Inter, France 5, l'Usine Nouvelle, FCBA, GAIA Communications.

Research institutes

CEA, Cemagref, Cirad, CNES, CNRS, IFP, Ifremer, Inra, Inria, Inserm, IRD, IRSN, Institut Pasteur, Laboratoire Central des Ponts et Chaussées, Onera, Inrets, Ademe.

Higher education

Ecole Nationale des Ponts et Chaussées, Ecole Polytechnique, Université de Paris Descartes, Ecole Nationale Supérieure de Chimie et de Physique de Bordeaux, Université de la Réunion, Université de Nantes, Université Catholique de l'Ouest.

International organisations

AUF, CERN, El Harrach National Agricultural Institute of Algiers (Algeria).
Elected assemblies:
Assemblée Nationale, Sénat, Conseil Économique, Social et Environnemental, Conseil Régional de Lorraine, Conseil Économique et Social d'Auvergne.

Voluntary associations, foundations

Fondation Charles Léopold Mayer pour le Progrès de l'Homme, Fondation de Coopération Scientifique, AFIS (Association Française pour l'Information Scientifique), ANRT, Maison Régionale x2000 Flandres Littoral.

Public-sector regional and hospital administrations

APHP, Cancéropôle Ile-de-France, Conseil Général de la Charente, Conseil Général de la Moselle, Conseil Régional de la Région Centre, Fédération Hospitalière de France, Rennes Métropole, Conseil Régional de Franche Comté.

Ministries and other public-sector bodies

Ministry for Agriculture and Fisheries, Ministry for the Environment, Energy and Sustainable Development, Ministry of Education, Ministry of Higher Education and Research, Ministry of the Interior (Gendarmerie, Police, Fire Brigade), Ministry of Defence, Ministry of Health and Social Solidarity, Cour des Comptes (revenue court).

Trade unions

Confédération Française de l'Encadrement-CGC, Confédération Générale du Travail (CGT), Confédération Générale des PME.



Putting it simply

"The simple fact of explaining our views to one another, in straightforward terms, has helped us all to go back to our various occupations with much clearer ideas about things. This prevents the passing on of misinformation, which often frightens people and turns them off science."

Isabelle Rongier-Pomagrzak

Member of the 2006-2007 intake, Pierre-Gilles de Gennes

A fresh look

"You find yourself with people very different from yourself. People you would not have met in your normal professional life, who make you see things from a different angle, ask new questions, review your 'software'."

Sophie Bécherel

Member of the 2007-2008 intake, Gérard Mégie

Facilitating the progress of research in society

"The IHEST brings together people of very different opinions, so that each is enriched by the other's point of view. Apart from these 'improbable encounters', the most important thing in my view was the highlighting of ways of facilitating research within all levels of society with respect to a whole range of problems involving science, technology and innovation."

Denis Priou

Member of the 2008-2009 intake, Hubert Curien



Students from the "Wind power" workshop visiting a wind farm, 2008-2009 national cycle.



During a visit to the Nord-Pas-de-Calais region, the students met with key players in the French textile industry. Here they are at the ENSAIT, the Ecole d'Ingénierie et d'Innovation Textile.

The IHEST course

Each year, subjects from daily life, specific issues that may differ for each cycle, or current affairs topics, all with a connection to scientific research, are chosen for the working sessions. A comparative, international approach is adopted. The cycle also deals with fundamental issues, the various aspects of the relationship between science and culture (philosophy, ethics, history, etc.), economics, the organisation and governance of research and innovation, the way in which science is taught. All go towards creating a shared culture among students and to breaking down barriers between their respective approaches.

Discussions with key figures

Conducted by high-profile personalities, these discussions form a common cultural foundation for the social, human, historical, philosophical and scientific disciplines. Following a presentation, the students get together in groups to formulate one or two questions, which are then put to the contributor.

Workshops

Divided into four groups with a leader, throughout the cycle the participants consider a scientific topic and its impact on society (e.g. Alzheimer's disease, radio-frequency identification devices (RFID), pollution of the River Rhône, household waste disposal, milk, wind farms, storms and hurricanes or the green motor car). At the conclusion of their study, they draw up a joint discovery report, presenting the issues examined, analysing the dynamics within the group and submitting appropriate recommendations.

Meeting people in their working environment

In France or abroad, site visits are a way of finding out about major infrastructure projects and cultural and scientific developments. They are an opportunity to meet

researchers, industrialists and politicians and to understand synergies at different territorial levels: local, national and transnational.

Publication of written material

Written documents inspired by collective, multidisciplinary reflection are a good way of keeping a record of tasks and discussions and of disseminating them via the Institute's website (www.ihest.fr): discovery reports, travel diaries, expert studies and reports, written accounts of contributions or even of complete sessions, in the case of those open to the public.

Final public feedback

The course ends with the students on a public platform where they have to develop the experience they have acquired of the science/society relationship and contribute to the dissemination of scientific culture.

Assessment

Each session is individually assessed by the students. A summary of these assessments, produced by the IHEST, is then returned to them. At the end of the cycle, individual and collective assessments are made with the students.

An open dialogue between students and contributors

Since the first national cycle in 2006-2007, many top-ranking French and international figures have taken the podium at IHEST conferences:

- ↳ ministers and secretaries of state, top civil servants and French and foreign politicians;
- ↳ many researchers of all disciplines;
- ↳ managers of major enterprises;
- ↳ journalists, voluntary sector managers and other representatives of civil society.

At each meeting, the contributors make the most of the forum for intellectual debate created by the IHEST; they share openly with a community of students united in a common interest, itself nourished by a very broad diversity of backgrounds, experiences and occupations.

Confidentiality is a condition of participating in the IHEST's national cycle sessions, which guarantees complete freedom of expression.

The IHEST network and public debate

In parallel with the national cycle and drawing on its growing network of former students and partners, the IHEST proposes - in the same spirit - other activities open to a wider public:

Regional meetings

Linked to a national cycle session, regional meetings on a chosen topic foster debate on the science/society relationship, in a particular geographical area. These meetings are organised with the support of the European Union and of regional authorities (Bordeaux, November 2008; Metz, May 2009; Rennes, March 2010).



Regional meeting held in Bordeaux in November 2008; round table: "What will innovative regions look like?" led by journalist Gérard Bonos.



"Towards a new university", 24 June 2009
"Meet the experts" with Michael Crow and Catherine Paradeise.

"Meet the experts"

Held in the early evening, with two or three high-profile figures involved, these thematic discussions leave plenty of room for interaction with the audience. The topics discussed so far have included:

- ↳ "Innovation: Unlocking the door", 31 March 2009
- ↳ "Towards a new university", 24 June 2009
- ↳ "Financial earthquakes and bubbles: Being prepared", 25 November 2009

The "Meet the experts" debates are transmitted live via the IHEST website, the full videos can be viewed, and there are also downloadable audio versions.

European Summer School

Held over four days, the School examines a topic in depth with a panel of participants representing the vital forces in society and the best scientific opinion. The end result is a discovery report. The first European Summer School, "Economics, the science which rules us? Lessons from crises", was held in September 2009. Most of the reflections were published immediately on the IHEST website, and the whole proceedings will be published soon.



"Economics, the science which rules us? Lessons from Crises", the IHEST's first European Summer School, held in September 2009. Round table with Richard Aréna, Christian de Boissieu, Bertrand Collomb and Didier Sornette.

The IHEST IDENTITY CARD

Status:	Executive Non-departmental Public Body (EPA) founded by decree on 27 April 2007
Mission statement:	<p>"The task of the Institut des Hautes Études pour la Science et la Technologie is to provide training, to disseminate scientific and technical culture, and to foster public debate regarding scientific and technological progress and its impact on society." (Decree of 27 April 2007).</p> <p>The IHEST is a training institution registered with the Prefect of the Ile-de-France Region under number 11 75 42988 75. Approved by the Ministry of the Interior, Overseas Territories and Regional Authorities for the training of local elected representatives.</p> <p>Under the aegis of: the Ministry for Higher Education and Research, the Ministry for Education</p>
President:	Bertrand Collomb, honorary chairman of the Lafarge Group, member of the Académie des Sciences Morales et Politiques
Director:	Marie-Françoise Chevallier-Le Guyader
Board of Management:	Nineteen members, three ex officio members, one deputy and one senator, six State representatives, the president of the association of former students, six appropriately qualified personalities, including two former students.
Scientific Committee:	Six high-profile figures appointed on the grounds of their competence by the sponsoring ministries.
Educational Committee:	Chaired by the director of the IHEST, the Educational Committee currently consists of seven members.
Operational Team:	The Operational Team is a group of ten people who are responsible for implementing the IHEST's strategic and educational objectives, and for organising and managing the Institute. It relies on advisors and consultants depending on the requirements of each session.