

Bezoek delegatie TTO Universit  Paris-Sud 4 september 2012

*Rectorale Salons, Naamsestraat 22, 3000 Leuven
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1. Delegatieleden

- Jacques BITTOUN, pr sident de l'Universit  Paris-Sud
- Etienne AUGER, Vice Pr sident Recherche de l'Universit  Paris-Sud
- Christine ARNULF-KOECHLIN, Directrice G n rale des Services de l'Universit  Paris-Sud
- Eric HENRIET, Directeur de la Fondation Universitaire de l'Universit  Paris-Sud
- Martine CARIS, Responsable Administrative et Financi re du Service d'Activit s Industrielles et Commerciales de l'Universit  Paris-Sud
- Tania DI GIOIA, Ing nieur Recherche du Service d'Activit s Industrielles et Commerciales de l'Universit  Paris-Sud
- Soizic LEEFEUVRE, juriste du Service d'Activit s Industrielles et Commerciales de l'Universit  Paris-Sud

2. Programma

- 10.15-11.00: Welcome and introduction of the KU Leuven by Prof. Dr. B. De moor, Vice-rector for International Policy
- 11.00-11.30: “LRD, the Leuven model of Tech Transfer” by Mr. Paul van Dun, Director of Leuven Research and Development (LRD)
- 11.30-12.00: “LERU, its TTO Community and the JRC TTO Circle” by Prof. Kurt Deketelaere, Director of the League of European Research Universities (LERU)
- 12.00-14.00: Lunch (Restaurant D’Artagnan, Naamsestraat 72, 3000 Leuven)
- Prof. Mark Waer, Rector of the KU Leuven
 - Prof. Koenraad Debackere, General Manager KU Leuven
 - Prof. Kurt De Ketelaere, Director of the League of European Research Universities (LERU)
 - Prof. Paul Van Dun, Director of Leuven Research and Development (LRD)
 - Prof. Peter Marynen, Vice-rector for Research KU Leuven
 - Prof. Bart De Moor, Vice-rector for International Policy KU Leuven
- 14.00-14.30: “Spin-off Creation & Growth at the KU Leuven “ by Mr. Rudi Cuyvers , Head of department Spin-offs en innovation LRD
- 14.30-15.00: “Intellectual property at KU Leuven “ by Mr. Wim De Clercq: Head of deparment Intellectual Property LRD
- 15.00-15.15: Coffee break
- 15.15-15.45: “Research policy of the KU Leuven” by Prof. P. Marynen, League of European Research Universities Vice-rector for Research Policy
- 15.45-15.55: Conclusions

3. CV Dhr. Jacques Bittoun, Rector van de Universiteit Paris-Sud



Jacques Bittoun a été élu Président de l'Université Paris-Sud, mardi 29 mai 2012, au cours du premier conseil d'administration réunissant les représentants des personnels et des usagers nouvellement élus. Il succède à Guy Couarraze, Président de l'Université Paris-Sud depuis janvier 2009.

Professeur des universités-praticien hospitalier (PU-PH), Docteur en médecine (Université Paris Descartes) et Docteur en sciences physiques (Université Paris-Sud), Jacques Bittoun était depuis 2007 vice-président du conseil scientifique de l'université. Professeur de biophysique et médecine nucléaire à la Faculté de médecine Paris-Sud, responsable du master de Physique médicale, il est également responsable d'une plateforme d'imagerie par résonance magnétique (IRM). Il a été directeur de l'unité de recherche Résonance Magnétique Médicale (Université Paris-Sud/CNRS) de 1996 à 2009. Directeur du Centre Inter-Etablissements de résonance magnétique nucléaire à l'hôpital Bicêtre jusqu'en 2010, il effectue aujourd'hui ses recherches au Service hospitalier Frédéric Joliot.

Les grands chantiers qui attendent le nouveau président pour ce mandat de quatre années s'organisent autour de l'adaptation de l'université à l'autonomie et aux nouvelles règles des responsabilités et compétences élargies ainsi qu'autour de la construction du projet d'université Paris-Saclay.

4. Achtergrondinformatie Universiteit Paris-Sud (Paris XI)

A. Université Paris-Sud - Achtergrond

Université prestigieuse, pluridisciplinaire à dominante scientifique et de santé, Paris-Sud jouit d'une réputation au plus haut niveau international grâce à sa recherche de très haut niveau, ses formations attractives, sa vie étudiante dynamique, ses multiples partenariats et les savoir-faire de l'ensemble de ses personnels.

Sur trois départements (91, 92, 94) au sud de Paris, l'Université Paris-Sud s'appuie sur neuf composantes : 5 Unités de Formation et de Recherche - UFR, encore appelées "facultés", 3 Instituts Universitaires de Technologie - IUT et une école d'ingénieurs. Son siège social est situé à Orsay, en Essonne (91).

en matière de recherche

L'Université Paris-Sud est l'une des plus prestigieuses universités en Europe sur le plan de la recherche. **Classée 1ère en France et 7e en Europe** selon le classement mondial des universités publié en 2011 par l'Université Jia Tong de Shanghai, elle est un acteur majeur de la création de l'Université Paris-Saclay qui devrait voir le jour en 2014.

Paris-Sud est également la première université française en termes de distinctions et de prix dont les médailles Fields obtenues régulièrement depuis 1994, les dernières ayant été attribuées respectivement en 2006 et 2010 au Professeur Wendelin Werner et au Professeur Ngô Bao Châu et les prix Nobel, dont le prix Nobel de physique 2007 du Professeur Albert Fert.

Paris-Sud dispose du plus grand campus universitaire en France avec 270 hectares et 580 000 m² de locaux dont 270 000 m² consacrés à la recherche.

107 laboratoires reconnus internationalement, en partenariat avec le CNRS, l'INSERM, l'INRA, l'INRIA ou le CEA pour la majorité d'entre eux.

Quelques repères en matière de formation

Adossement à une recherche de haut niveau garante de la plus grande actualisation des connaissances, pluridisciplinarité et transdisciplinarité, méthodes pédagogiques innovantes notamment numériques, professionnalisation des cursus, insertion professionnelle des étudiants, tant en licence, qu'en master ou en doctorat... telles sont les principales caractéristiques de l'offre de formation de l'Université Paris-Sud.

Pluridisciplinaire à dominante scientifique et de santé, Paris-Sud est la seule université en Île-de-France à proposer une offre de formation allant de façon continue des sciences exactes à la pratique clinique de la médecine en passant par toutes les disciplines, comme l'informatique, la physique, la chimie, la biologie et la pharmacie. À ce vaste champ disciplinaire s'ajoutent le droit, l'économie, la gestion et les Sciences et techniques des activités physiques et sportives, qui lui donnent une large ouverture sur la société.

27 300 étudiants en 2011-2012 dont 13 900 au niveau Licence et équivalent, 10 830 au niveau Master et équivalent et, enfin, 2 580 en Doctorat. Paris-Sud a une **spécificité liée à la renommée de sa recherche** : une forte proportion d'étudiants inscrits en Master et en Doctorat.

Un personnel d'encadrement hautement qualifié

2 500 enseignants-chercheurs et chercheurs
2 700 personnels ingénieurs, techniques et administratifs
80 personnels de Bibliothèque Universitaire

Des moyens budgétaires renforcés

400 M€ de budget annuel consolidé
292 M€ de subventions de l'État
20 M€ de contrats de recherche
3 M€ de taxe d'apprentissage
4,5 M€ de chiffre d'affaires en formation continue

B. Université du Paris Sud: Korte geschiedenis

After World War 2, the rapid growth of nuclear physics and chemistry meant that research needed more and more powerful accelerators, which required large areas. The *Université de Paris*, the *Ecole Normale Supérieure* and the *Collège de France* looked for space in the south of Paris near Orsay.

October 1954

The Parc de Launay in Orsay (160 hectares) was bought by the State.

1955

Construction began on the *Institut de Physique Nucléaire* (Nuclear Physics Institute) and the *Laboratoire de l'Accélérateur Linéaire* (Linear Accelerator Laboratory) by architect Seassal under the scientific direction of Joseph Pérois, Irène and Frédéric Joliot-Curie and Hans von Halban.

1957

The cyclotron of the *Collège de France*, built in 1937, was moved to Orsay.

1958

The first beams of the new French accelerators began to function (synchro-cyclotron of 157 MeV, and Linear Accelerator).

1958-1965

Some of the teaching activity of the Faculty of Sciences in Paris was transferred to Orsay. The rapid increase of students led to the independence of the Orsay Center on March 1st, 1965.

December 1970

The Université Paris-Sud 11 was founded with the integration of the centers of Orsay, Châtenay-Malabry, Sceaux, Cachan and Kremlin-Bicêtre.

Since 1970

The campus in Orsay began to expand on the *plateau de Moulon* with the founding of new laboratories which were almost all within Université Paris-Sud, although a few were more specifically linked to the *CNRS* or even with Paris VI University.

Because of the proximity of Université Paris-Sud to the *CEA* (Atomic Energy Institute) and to the laboratories of the *CNRS* in Gif sur Yvette, many institutes and laboratories, as well as academic schools (*Polytechnique, HEC, IHES, ENSTA...*) also came to this area. As a result, the Vallée de Chevreuse has become one of the most important and well-known areas in scientific research in Europe.

C. Onderwijssamenwerking

1) Erasmus Mundus

Erasmus Mundus Joint Masters in Economics and Management of Network Industries (ENIM II) (2010)

Co-ordinator: Universidad Pontificias Comillas Madrid (Spain)

Partners: KU Leuven (Belgium) - Université de Paris-Sud (11) (France) - Technische Universiteit Delft (the Netherlands) - European University Institute Firenze (Italy)

Non-European partners: Federal University of Rio de Janeiro (Brazil) - Johns Hopkins University (US) - University of Texas in Austin (US)

During the last decade, network industries and infrastructures have progressively been exposed to market restructuring with the objective of reaching higher degrees of competition and efficiency. In this context, new forms of regulatory governance and policy have been put into practice, and new economic approaches have been introduced to traditionally regulated sectors such as the electric power industry, the gas sector, telecommunications, transport, water and postal services.

2) Erasmus - studentenuitwisselingen

Fac. Wetenschappen (Fysica) heeft een Erasmusovereenkomst met Paris-Sud : coördinator is prof. Jos Rogiers.

Via dit akkoord stuurde de Fac. Wetenschappen de afgelopen drie academiejaren telkens 1 student uit.

D. Onderzoekssamenwerking (via lijst DOC)

- Prof. Luc Van Gool (ESAT-PSI) : PASCAL (Pattern analysis, Statistical Modelling and Computational Learning) - 2003-2007
- Prof. Karin Sipido (Experimentele Cardiologie) : Wijziging in mitochondriële biogenese en functie - een schakel tussen metabolische aanpassing en contractiele dysfunctie in chronisch ischemisch hartlijden – 2008-2011

5. Onderwijs in Frankrijk (bron: NARIC)

Higher education is provided by universities, university institutes, *grandes écoles* and specialist state and private institutions.

There are three categories of higher education qualification which are awarded in France:

- National qualifications
- Qualifications awarded by institutes and schools affiliated to the universities (engineering schools and political institutes)
- Qualifications awarded by the universities themselves

National qualifications are awarded in fields such as:

- Arts
- Dentistry
- Economics
- Law
- Management
- Medicine
- Natural sciences
- Pharmacy
- Physics
- Social sciences
- Technology

The Ministry of Education publishes a list of national qualifications for which the curriculum is set partly at national level and partly by the individual institutions. The curriculum for university qualifications is determined by the individual universities and advisors from industry and commerce.

Admission Requirements

The entry requirement for higher education courses in France is the *Baccalauréat*, although some universities require applicants to complete entrance examinations. Students attending *grandes écoles* (or some of the specialist institutions) must complete between two and three years of additional preparatory study at a *lycée*, followed by competitive entrance examinations (*concours*).

Due to competition, students take places on university courses in different areas to those studied at *Baccalauréat* level. Since March 1992, a compulsory application scheme has been set up for admission to undergraduate courses.

Institutions

Universities

The university sector covers universities and *Instituts Universitaires de Technologie* (IUTs - university institutes of technology), which are attached to a university. University admission requirements include the *Baccalauréat* and any entrance examinations set by the university. The majority of students in higher education attend university. The range of subjects available in the sector is wide and includes the following:

- Engineering
- Science and technology
- Law
- Literature
- Languages
- Arts
- Human sciences
- Economics and management
- Health

The duration of most studies is between three and five years.

Instituts Universitaires de Technologie (IUT)

In 1966, the first *Instituts Universitaires de Technologie* (IUTs) were established. IUTs offer specialist higher education over two years with courses leading to the *Diplôme Universitaire de Technologie* (DUT). Students holding a DUT may also go on to other higher education programmes to take a *Licence* or other higher education qualification.

Instituts Universitaires Professionnalisés (IUP)

The first *Instituts Universitaires Professionnalisés* (IUPs) were established in 1992 to train executive level employees in the fields of engineering, business and management, general administration, information and communication. The entry requirement is a *Baccalauréat* plus the completion of one year of higher education (some courses require two years of higher education), although students may be subject to further selection procedures.

The IUP offer courses lasting three years, which include a minimum of six months practical work experience and some initial research. All students are required to study two foreign languages throughout the course. Successful completion of the first year of the course leads to the award of the *Diplôme d'Études Universitaires Générales* (DEUG). The *Licence* degree is awarded on completion of the second year, and the *Maîtrise* degree on completion of the third year. Students who successfully complete the whole training course with strong enough results are awarded the title of *Ingénieur-maître*.

Grandes Écoles

There are various types of *grandes écoles*, which aim to train students to a high level of excellence with entry via preparatory years and a national competitive entrance examination. *Grandes écoles* are recognised in France for providing high calibre graduates and are seen as highly prestigious centres of learning. The types of *grandes écoles* are listed below:

Écoles Normales Supérieures (ENS)

There are currently four ENSs, which prepare students for senior civil service and private sector positions. The subject areas include literature, sciences, humanities, languages, economics, law and management. Whilst studying at an ENS the student is part of the civil service and receives remuneration for the duration of their studies.

The duration of the course is four years and has traditionally led to a *Diplôme d'Études Approfondies* (DEA).

Écoles d'Ingénieurs

There are many *Écoles d'Ingénieurs* (engineering schools), some of which are university schools. There are varied entrance requirements depending on the school, the course and the competition for places, including a competitive entrance examination, upper secondary leaving qualification and short cycle higher education qualifications, with studies taking up to five years depending on the previous level of education acquired. The final qualification is the *Diplôme d'Ingénieur*, which gives the holder the right to use the “*titre protégé*” (protected title) of *Ingénieur* (engineer). From 1999 onwards, following the implementation of the Bologna reforms, the *Écoles d'Ingénieurs* can also confer the title of *Grade de Master* upon their graduates.

Engineering schools in the state sector are controlled by the government through different ministries and organised either independently from the universities or within them. The private engineering schools are controlled by Chambers of Commerce and Industry, Syndicates, Guilds, etc. Each school receives a six-year accreditation from the *Commission des Titres d'Ingénieur* (CTI) (Engineering Title Committee), created by the law of 1934 and controlled by the Ministry of Education. The CTI studies problems relating to engineering education, examines engineering degree accreditation requests coming from engineering schools and monitors the authorised engineering education programs. The CTI investigates private or public institutions upon the request of the Ministry. Recommendations are given, with the final decision the responsibility of the Ministry.

Écoles de Commerce et de Gestion

There are around 200 of these business and management schools preparing students for roles in senior management, finance and business. Admission largely depends on the level of prestige of the institution with the majority requiring preparatory studies and entrance examinations. Studies take up to five years depending on the previous level of education acquired.

These institutions can request recognition by the state; which, if granted, guarantees that the school makes a useful contribution to education and offers satisfactory curricula. Recognition lasts for five years and is granted by decree from the Ministry of Education. The authorisation to issue a *diploma revêtu du visa officiel* (validated with an official seal) can be granted by the Ministry of Education to institutions that have been recognised by the state for at least five years. The criteria are the same as for official recognition, but with more demanding requirements for the level and quality of the courses of study provided.

Following the Bologna reforms, some of these schools are entitled to award the title of *Grade de Master* to their graduates - the list of these institutions and the dates between which this applies are set by the state and can be found on the relevant *Bulletin Officiel*.

Instituts d'Études Politiques (IEP)

There are currently nine *Instituts d'Études Politiques* (IEP), with the most prestigious located in Paris and the others linked to universities, which offer four to five-year courses in political sciences. Since 2000, the courses have normally involved three years of studies followed by an international internship in a university or organisation followed by a second two-year cycle. Admission is highly competitive and usually requires strong results in the *Baccalauréat* and entrance examinations. Admission is not restricted to the first year of study and students with existing higher education qualifications may transfer onto IEP courses.

Écoles Vétérinaires

There are four specialist veterinary schools which offer the *Diplôme d'État de Docteur Vétérinaire*. There are various highly competitive entrance requirements, including two years of preparatory classes, appropriate upper secondary leaving qualifications and short cycle higher education qualifications. In each option the student must also take a competitive entrance examination. Studies take up to six years depending on the previous level of education acquired. Additional specialisations take up to three more years.

Other Grandes Écoles

There are a small number of additional *grandes écoles* providing advanced education in highly specialised fields such as fine art, statistics and law.

Private institutions of higher education

The law of 12 July 1987 established the principle of the freedom of higher education. As a result, private institutions can be created subject to legal notification.

Bologna Process

As a result of the international meetings at Paris-Sorbonne in 1998 and [Bologna](#) in 1999, French higher education has been developing a system involving three distinct levels of qualification, the *Licence*, *Master* and *Doctorat*, known as LMD. New LMD awards were first offered from 2002 following the publication of a set of regulations concerned with implications on the French higher education system in relation to the development of the European Higher Education Area. All higher education institutions had implemented the LMD reforms by the start of the 2006 academic year.

Previously, university education was divided into three cycles and some of these traditional university programmes are still available. For more information about the traditional programmes, click [here](#).

Qualifications

Licence Degree

Following the post Bologna developments to the higher education system, the *Licence* is awarded after three years of study. It is intended as the first higher education degree and can be used to allow students to begin to specialise in a chosen field.

The *Licence Professionnelle* is a new vocational degree created in 1999. It is primarily designed to promote labour market integration and provide initial or continuing education courses for students

who have obtained a two-year diploma after the *Baccalauréat* (*DEUG, DUT, BTS or BTSA*) in one of 610 specialities available. The duration of the course is normally one year (two semesters) and the qualification is intended to bridge the gap between higher technician qualifications and engineering or senior management qualifications.

Master's Degree

The *Master Recherche* (Research Master's) and the *Master Professionnel* (Professional Master's) were introduced into the French higher education system following the Bologna reforms. Both types of Master's degrees require two years or four semesters (120 credits) of further study following a *Licence*. The first year of the course is generally referred to as M1 (*Master 1ère année*) and the second as M2 (*Master 2e année*).

The *Master Recherche* is intended to prepare students to undertake research and holders of this award can use it to apply for admission to Doctorate programmes. The *Master Professionnel* is intended to provide highly qualified workers for the labour market as it offers student the change for further specialisation within their field of study or to acquire a second competency. It replaces the one year *Maîtrise* followed by a *Diplôme d'Études Supérieures Spécialisées (DESS)*.

As discussed in previous sections, graduates from the écoles d'ingénieurs and the écoles de commerce et de gestion may also be eligible to receive the Grade de Master.

Mastère Spécialisé

The *Mastère Spécialisé* is a post-*Diplôme* professional award (e.g. following a *Diplôme d'Ingénieur*), which is set and awarded by the universities themselves and does not undergo any external validation. It is thus not a national qualification recognised by the *Ministère de l'Éducation Nationale de la République Française*. However, this award is highly valued by employers in France.

Doctorat

A *Doctorat* can be taken following a *Master Recherche* (Research Masters) or a *Diplôme d'Études Approfondies (DEA)* and requires at least three years of study.

Medicine, Dentistry, Pharmacy

In the field of medicine, students follow a general science course known as the *Premier Cycle d'Études Médicales (PCEM)* for the first year. Students of dentistry also follow the first year of this course. At the end of the first year, students sit a competitive examination for promotion to the second year. However, progress is not guaranteed by passing the examination, as the number of available hospital placements is also taken into account.

Six years of specialised study after the PCEM are required for the award of the *Diplôme d'État de Docteur en Médecine*. Four years of study after the first year of PCEM are required for the award of the *Diplôme d'État de Docteur en Chirurgie Dentaire*. Six years of study after completion of a competitive examination are required for the award of the *Diplôme d'État de Docteur en Pharmacie*.