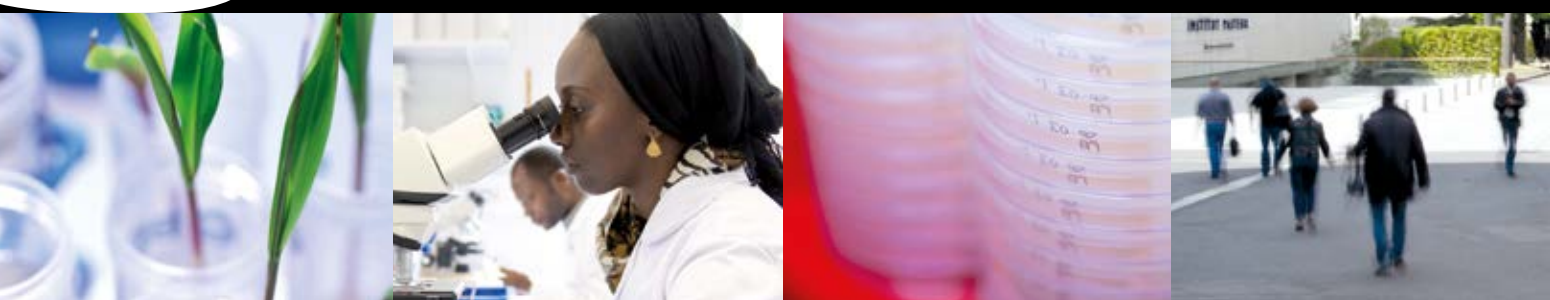




STRATEGIC PLAN 2014 > 2018



Institut Pasteur



Editorial from the President of the Institut Pasteur



The Institut Pasteur, a Research Institute of excellence created in 1887, has been contributing to the history of science, medicine and public health for over 125 years. It operates in a highly international context, with a network of 32 Pasteur Institutes throughout the world and has four large public interest missions: Research, Education, Public Health, and Valorisation of scientific research via technology transfer and industrial partnerships. In keeping with the humanistic nature of its founder, the Institut Pasteur champions the avant-garde spirit necessary for the conduct of advanced biomedical research. We are living today in times of great change in science, medicine and public health: the emergence of new founding concepts born of fundamental research, the development of extraordinarily efficient technologies and a new awareness of the challenges to global health are disrupting our way of thinking and of conducting research.

In this context, the strategic plan presented in this document is intended to reignite the ambitious vision and the leading role of the Institute, whilst maintaining the uniqueness of its position. This strategic plan focuses on eleven priorities: our scientific vision, recruitment and career management, our educational mission, the essential role of the Institut Pasteur International Network, the organisation of research, and development of transversal and incentivised research programs, public health and translational research, national and European research strategy, valuing Pasteur research and industrial partnerships, upgrading our infrastructure and our fundraising strategy.

Each of these priorities is essential, and held in balance by an overall strategic vision that puts the Institut Pasteur, an International Institute for research and education rooted in France, at the heart of advances in tomorrow's science, medicine and public health.

Christian Bréchet

Institut Pasteur: an international institute of research and training based in France, leader in science, medicine and health.

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EXECUTIVE SUMMARY

The Institut Pasteur, a Research Institute of excellence created in 1887, has been contributing to the history of science, medicine and public health for over 125 years. It operates in a highly international context, with a network of 32 Pasteur Institutes throughout the world.

GIVING BACK TO THE INSTITUT PASTEUR ITS LEADING ROLE AND AMBITION, **WHILE PRESERVING THE UNIQUENESS OF ITS STRATEGIC POSITIONING.**

A truly unique research and teaching institute

The Institut Pasteur is uniquely positioned in the complex worldwide panorama of Institutes and research organisations: it is and will remain an Institute anchored in fundamental research, producing knowledge, changing the paradigms of research and building history. Created by Louis Pasteur, it is also true to its vocation: to inspire its research from medicine and public health and, in turn, to apply the results of this research to the well-being of the patient and society at large. The Institut Pasteur is also a great center of learning, whose training shines throughout the world through the Institut Pasteur International Network. Links with industrial partners and the application of knowledge to technology transfer, with a focus on solving practical problems are also at the heart of its strategic vision. Finally, the Institut Pasteur in Paris stands at the heart of a network of 32 Pasteur Institutes on five continents and in 25 countries. It is the unique combination and complementarity of these missions which give the Institut Pasteur a singular position; it will only remain one of the greats by focusing on their coherence and balanced integration.

An ambitious but realistic strategic plan for the Institut Pasteur

The strategic plan presented in this document is based on a meticulous analysis of the strengths but also the weaknesses of the Institut Pasteur. It aims to bring back to the Institute its ambitious vision and its leading role, whilst maintaining the uniqueness of its positioning. This approach will be implemented in the context of a profound evolution in science, medicine and public health. We live in an exciting period in the history of research, a period in which the necessary elements for major change converge, such as the emergence of new founding concepts born of fundamental research, the development of extraordinarily efficient

technologies, the new awareness of the need for education and research to be truly inter-disciplinary; these changes challenge our way of thinking and our way of conducting research. Major transversal themes are emerging, such as inflammation, ageing or nutritional and metabolic disorders. Personalised medicine is gradually taking its place within patient care. Meanwhile, the mediums for knowledge exchange between scientists and doctors around the world are changing profoundly with, in addition to publications, conferences and patents, the use of new modes of communication, especially social networks. The relationship between public and private research is undergoing dramatic change via important shifts in the way new concepts and technologies in research and development are acquired by large pharmaceutical companies. These companies are now increasingly open to external partnerships, with small and medium-sized biotechnology companies, universities and public research centers. These scientific developments are taking place in a global economic and geopolitical environment that is witnessing emerging countries become important players in scientific progress.

The strategic priorities of the Institut Pasteur, an International Institute anchored in France

INDIVIDUALS AT THE HEART OF THE PASTEURIAN PROJECT

In this context, the Institut Pasteur will develop a strategy focused primarily on people, offering more attractive packages for recruiting new talent (senior as well as junior researchers). Parallel career paths within the Institut Pasteur will be significantly reorganised, for technical, administrative staff, researchers and engineers. The objective is to define « tenure tracks » prior to the acquisition of a permanent position that will strengthen the dynamics, flexibility and attractiveness of careers within the Institute. This objective is important in an

IMPROVING THE APPEAL AND FLEXIBILITY OF CAREERS AT THE INSTITUTE.



Institute in which the many retirements due in the coming years, present both a challenge and an opportunity.

This evolution in career development will be accompanied by a new ambition for education, another essential mission of the Institut Pasteur. The development of education is guided by the leitmotifs of international openness, the adoption of a resolutely innovative and interdisciplinary approach and the use of new digital tools. The Institut Pasteur also seeks to incorporate the training of doctors, pharmacists and veterinarians, as well as partnerships between public and private sectors to develop a true spirit of entrepreneurship. The Campus of the Institut Pasteur Paris, renovated as part of a multi-year master plan, will reflect the spirit of our scientific vision for research and teaching: circulating energy and talent; pooling resources and skills, equipment and technology, at the highest level.

A SCIENTIFIC VISION THAT IS BORN FROM CURIOSITY AND INTERDISCIPLINARITY

The Institut Pasteur needs to deploy a strategy that is both multidisciplinary and based on scientific discovery. The scientific project that we will develop will include the various disciplines that have made the success of the Institut Pasteur, namely: microbiology and infectious diseases, immunology, developmental biology and regenerative medicine, neuroscience, genetics and cancer. In conjunction to this approach, the identification of themes common to the different scientific disciplines must be the subject of incentives and recruitment of researchers through targeted tenders. Thus, as an example, areas such as

quantitative and integrative biology, epigenetics and antibiotic resistance will receive specific recruitment initiatives. The Institut Pasteur will also seek to answer important scientific questions about the basic mechanisms of life (such as epigenetics, co-evolution of human and bacterial genomes, microbial physiology, structural biology and its interface with cell biology, with the analysis of macromolecular complexes etc.). Projects integrating different scientific components will also be developed (such as the interactions between hosts, vectors and pathogens, genetics and polymorphism of the host, microbiota and «populational» analyses in microbiology, inflammation and oxidative stress etc.) Finally, the Institut Pasteur will play a major role in the emerging link between microbes (whether microbiota, especially intestinal, or pathogens) and «non-communicable diseases»: obesity and diabetes, cancer and neurodegenerative diseases, chronic pulmonary diseases, etc. Thus, transversal programs will be implemented in such a way as to strengthen an interdisciplinary approach on specific topics such as gut microbiota and neuroscience, interactions between infection, nutrition, metabolism and cancer. Finally, the scientific strategy of the Institut Pasteur will take better account of the importance of technological research.

THE INSTITUT PASTEUR INTERNATIONAL NETWORK, A UNIQUE SCIENTIFIC AND STRATEGIC ASSET

Strengthening the international network of 32 Pasteur Institutes and their integration is a key element of the strategy of the Institut Pasteur and is at the heart of the Institut Pasteur's vision. The success of this policy will depend

on international mobility and exchanges of scientists between the Paris campus and the Institutes of the Network. Any researcher recruited by the Institut Pasteur to a permanent position will now work for at least three months within an institute of the Network during the first two years of his or her recruitment. The participation of an institute of the International Network will be another condition for eligibility for the financing of certain incentivised research programs as mentioned previously. Many actions to reinstall within the Network a local, regional and global vision, as well as to improve visibility vis-à-vis large international organisations and foundations are also proposed.

SYNERGISING RESOURCES AND KNOWLEDGE TO FURTHER OUR SCIENTIFIC VISION

A new research organization will be established, which should permit the Institut Pasteur to better synergise the skills of different research departments and institutes within the International Network, in order to better address major research issues. In this respect, research centers, that are flexible and transversal structures across the departments and institutes of the Network, will regroup our strengths and talents around specific subjects: translational research (the Center for Biomedical and Translational Science), public health (the Center for Global Health Research and Education), bioinformatics and integrative Biology (the Center for Bioinformatics / Biostatistics and Integrative Biology) and technological research (the Center for Innovation and Technological Research). Research infrastructures and technological



THE VALORISATION AND SHARING OF THE FRUITS OF PASTEURIAN RESEARCH

The creation of a Grant Office will both ensure better management of these programs and strengthen our European and International strategy. To bring a decidedly ambitious strategy to the Institute the Grant Office will adopt a business intelligence approach, identifying the needs of partners, both academic and private (foundations and major international organisations as well as industrial partners). The activities of this «Grant Office» will be closely coordinated with those of Technology Transfer and industrial partners, as well as fundraising and bequests.

Technology transfer and industrial partnerships, fully integrated in our activities, are central to the projects of our Institute: they allow many to come into being and are an important source of funding. A new step will be implemented. For this we will strengthen the links between the research activities of the Institute and the Network and industrial partners. We will support the initiation stage of innovative projects (in particular through an increase of the invention disclosure and the «Pasteur Innovation Program» as well as a better involvement of our scientists regarding the results of their research). In addition, the creation of dedicated technology transfer subsidiaries in North American and Asia should strengthen the international dimension of our activities. A better coordination of our efforts between legal entities, technology transfer and «business development» will increase the scientific and financial impact of these actions.

The Institut Pasteur has been able to improve the effectiveness of fundraising and bequests in recent years. However, it is now necessary to bring a new level of ambition to this essential component of the financial equilibrium of the Institute. It is by strengthening the reputation of the Institute, by better defining its image, targeting more effectively major donors, and by a coordinated approach with the Grant Office that we will succeed. Again, these actions will be focused on increasing their international dimension, especially with an ambitious presence in North America, Asia and Switzerland.

In conclusion, the strategic plan here presented should enable the Institut Pasteur to meet the new challenges of science, medicine and public health by drawing further advantage from its uniqueness and by projecting the future firmly into an international context.

FACE THE NEW CHALLENGES OF SCIENCE, MEDICINE AND PUBLIC HEALTH BY PLACING THE INSTITUT PASTEUR IN A TRULY INTERNATIONAL CONTEXT.

platforms, combining service activities (the efficiency of which must be increased) and technological research, will be strengthened and their activities better coordinated by the Center for Innovation and Technological Research.

Transversal and incentivised programs will also be introduced. They will provide support: early on for innovative and interdisciplinary projects such as «Transversal Research Programs» (TRP) and «Inter-Pasteurian Concerted Actions» (IPCA). These programs will also support existing subjects, such as mycology, Dengue or the impact of non-coding RNA in microbiology. Finally, Major Federating Programs will allow the Institute to strengthen broad themes, such as vaccinology, or new challenges such as: the link between microbes and neuroscience, the interaction between infections and nutrition and metabolic diseases in the genesis of cancer.



INSTITUT PASTEUR'S SCIENTIFIC VISION

In a context of intense global upheaval, in both health and science and with the emergence of new threats, the Institut Pasteur needs to review its scientific priorities and strategic short-and medium-term orientations. The scientific vision of the Pasteur Institute aims to clarify the major issues we intend to address, while maintaining high-level curiosity-driven research.



THE BEST POSSIBLE SCIENTIFIC, TECHNOLOGICAL AND SOCIAL ENVIRONMENT FOR A CURIOSITY-DRIVEN RESEARCH AT THE HIGHEST LEVEL.

11 scientific departments
around **130** research units
Technological platforms, organized in **4** clusters
15 National Reference Centers (NRC)
8 World Health Organization Collaborating Centers
3 Laboratories of Excellence (LABEX)
an international teaching and training Center
Around **2,400** employees on the campus
A network of **32** institutes Pasteur Institutes throughout the world.

The scientific vision of the Institut Pasteur, where we stand today, the challenges ahead

THE INSTITUT PASTEUR, AN INTERNATIONAL AND INTERDISCIPLINARY INSTITUTE

The four core missions of the Institut Pasteur since its creation in 1887 are Research, Public health, Teaching, and Valorization of scientific research via technology transfer and industrial partnerships. Widely recognized as the birthplace of microbiology, the Institut Pasteur has also helped lay the foundations of immunology and molecular biology. Pasteurian research has now extended to neuroscience, developmental and stem cell biology, and genomics, placing the Institut Pasteur among the most prestigious institutions in Biomedical Research worldwide.

The flagship institute in Paris is composed of 11 departments of research, around 130 research units (including five-year junior groups), 4 core facilities, 15 national reference centers (NRC), 8 World Health Organization Collaborating Centers (WHO-CC), 3 "laboratories of excellence" (LabEx), a high-level teaching center. It has a critical mass of about 2400 persons in Paris. Institut Pasteur with a network of 32 associated institutes worldwide (the Institut Pasteur International Network - IPIN) represents a unique international multidisciplinary research organization.

NEW SCIENCE AND HEALTH CHALLENGES, ON A GLOBAL SCALE

The major threats that have now to face both developed and developing countries include a longer life span expectancy and its associated pathologies -cancer, and metabolic, neurological and cardiovascular diseases-, global warming, globalization and its environmental consequences, the emergence of new viral, bacterial, parasitic or fungal epidemics, and the resistance of pathogens to drugs.

Innovative cutting-edge technologies are now opening novel areas of biomedical research, with the hope of offering soon new

general interventions at the level of populations within their environment (Global Health) and novel treatments at the individual level with personalized medicine adapted to a person's unique genetic and physiologic constitution.

Our ambition: meet the present and future human health challenges, by accelerating our understanding of physiological and pathological processes, and by developing novel strategies of diagnostic, prevention and treatment of diseases

AN AMBITIOUS SCIENTIFIC VISION, USING TOOLS THAT ARE INNOVATIVE AND COMPLEMENTARY

The main objective of the Institut Pasteur is to meet these present and future human health challenges, by accelerating our understanding of physiological and pathological processes, and by developing novel strategies of diagnostic, prevention and treatment of diseases. These basic, and applied biomedical questions require the use of state of the art technologies and the development of new ones.

The aim of this vision paper is to define strategic orientations in the short to medium-term range. These orientations are broad, and deliberately organized in main/general questions, informing Institut Pasteur scientists and others, of the general perspectives for which the best possible scientific, technological and social environment will be implemented in order to maintain curiosity-driven research at the highest level.

The Institut Pasteur will reinforce partnerships with other institutes and universities, in which additional expertise is found. These collaborations should bring innovative and complementary visions. Translational research will also be



strengthened, through the reorganization of clinical research and stronger partnerships with hospitals.

To respond to new paradigms and challenges rising from omics/integrative biology in terms of large data storage, integration, visualization and analysis, the Institut Pasteur has started to reinforce bioinformatics, biostatistics and integrative biology.

The key questions that shape the Pasteurian scientific vision

WHAT ARE THE BASIC PROPERTIES OF LIVING ORGANISMS?

A deep understanding of the fundamental properties of living organisms and of the underlying molecular machines and mechanisms at play under normal and pathologic conditions, rely partly on reductionist approaches. These should be actively pursued and increased in order to elucidate the specific properties of various microorganisms- pathogenic or commensals- and of cells, tissues and organs in several living organisms. The use of cutting edge technologies now available in structural biology and cell biology will be reinforced. However they need to be coupled with global studies. A significant reinforcement of research in physiology and metabolism will be implemented to study microbes (from bacteria to parasites and fungi) as well as higher eukaryotes in particular humans. The basic properties of stem cells, their behavioral plasticity and survival will be fully investigated to understand the signals and cellular interactions controlling the equilibrium between pluripotency and differentiation. In this area as in most areas, systems biology

approaches will allow to define overall functioning principles. For example, systems immunology will study the immunologic properties of tissues and organs with multiple cell types interacting to define homeostatic and pathogenic states. Global approaches are also required to address human brain function, and several important facets in human genetics, e.g. human variability in susceptibility to disease, coevolution of human and microbial genomes. Epigenetics, which allows an understanding of the regulation of gene expression not encoded in the genome sequence during development, the immune response and infectious processes, has been identified as a priority area.

HOW DO HOSTS, MICROBES -COMMENSALS AND PATHOGENS- AND VECTORS INTERACT?

The notion of man, as a superorganism made of human cells and of associated microbiotas (gut, skin, lung...) even if well accepted remains to be studied in detail. The function of the microbiota at homeostasis and during infection, the resilience after infection, inflammation and antimicrobial treatments, are new research areas in both microbiology and immunology that will be reinforced. Towards this aim, research on microbial assemblies, inter-bacterial communication, population analysis of microbial communities is strongly encouraged. In addition to the many infection biology studies carried out presently in the Institut Pasteur, particular attention will be brought to neglected and emerging and re-emerging infections for which the Institut Pasteur with its network is particularly well placed to play an active role. This requires an armada of competences which are present on the campus but often need to be gathered in

common programs and task forces when necessary.

Research on Insects and arthropod vectors has been identified as a priority research area. Several aspects are to be considered: persistence of the pathogen in the vector, immune reaction of the vector to the pathogen, response of humans to the vector and also host specificities of the vector, biology of the vector in different geographical areas...

WHAT ARE THE PHYSIOLOGICAL AND PATHOLOGICAL MECHANISMS ASSOCIATED WITH INFECTIOUS AND NON-INFECTIOUS DISEASES?

The role of microbes in non-communicable diseases such as cancer, neurodegenerative diseases, metabolic diseases, diabetes, obesity, is increasingly recognized. The study of the underlying mechanisms, - a prerequisite for future interventions - will be addressed in a transversal, integrated, broad vision and include experts in immunology, microbiology and neuroscience as well as nutritionists, cancerologists.... Interactions between immune systems and tumoral cells, the impact of inflammation and tissue damage in particular are important research themes that need to be strengthened. Such a goal will require a reinforcement of medicine within the Institut Pasteur as well as collaboration with other institutions and hospitals.

HOW TO DESIGN NOVEL ANTI-MICROBIAL STRATEGIES?

Antibiotic resistance is a strategic issue of major global public health importance, a massive threat where the previous strategies, i.e. developing powerful antimicrobials, have failed because selection for resistance inevitably occurs. New concepts or the renaissance of old ideas (colonization with



**WORLD-REKNOWNED
FUNDAMENTAL
RESEARCH, AMBITIOUS
TRANSLATIONAL
RESEARCH
AND AND HIGH-
PROFILE TEACHING.**

judiciously chosen flora) are needed. A large effort is necessary not only to generate new anti microbial drugs but also to understand the many factors that lead to the emergence of resistance. This holds true for bacterial, fungal and parasitic resistance. The Institut Pasteur will continue to search for better vaccines. In that aim, major federating programs will be set up. They will include basic research studies and translational approaches integrating vaccination with metabolism and nutrition studies, as well as innate and adaptive immunity.

**WHICH TECHNOLOGICAL
DEVELOPMENT SHOULD
BE PERFORMED TO
ADDRESS CURRENT AND
FUTURE CHALLENGES?**

The development of technological research at Institut Pasteur will be formalized with the creation of a Center for Innovation and Technological Research, in partnership with external research centers. Such collaborations should help introduce and generalise the use of microfluidics and single cell analysis in various areas of research. Reinforcement of bioinformatics, biostatistics, analysis of big data, biomathematics, modeling, and computational biology is ongoing through the accelerated recruitment of a large cohort of bioinformaticians and the creation of a Center of Bioinformatics / Biostatistics and Integrative Biology.

Genomic and post genomic technologies will be regularly updated. It will also be the case for imaging: in vivo and ex vivo imaging, super resolution microscopy, electron microscopy... The mass spectrometry platform will continue to increase its capacity and performance in proteomics, and will also extend its expertise in lipidomics, and glycomics. Measures for implementing rapidly high throughput genome editing technologies in particular the CRISPR-Cas9 technology, are currently being taken. In summary, in the years to come, the Institut Pasteur and its International Network will join forces to face the major present and future health threats using internationally recognized fundamental research, increased translational research and outstanding teaching and education.



RECRUITMENT AND CAREER MANAGEMENT

DEVELOPING TALENT AS OUR PRIORITY

At the heart of the Institut Pasteur's strategic and scientific ambitions are the men and women who carry out research at the highest level, and they are our first priority. The Institut Pasteur depends on the best talents and needs to provide the freedom, the curiosity and the means for them to realize their full potential: this is the fundamental objective in our recruitment, and our management of careers. The Institut Pasteur now faces two major challenges: a demographic challenge to bring dynamic renewal within the research units, and a scientific challenge to obtain the level of skills appropriate in a changing international environment. This set of challenges presents us with a unique opportunity: we can define a new management model to follow the scientific careers of our teams, both in line with the Pasteurian vision and with the needs of contemporary research.



INNOVATE WHILST PRESERVING A BALANCE BETWEEN THE APPEAL OF OUR JOB OFFERS, OUR CAREER MANAGEMENT AND INTERNAL PROMOTIONS.

Approximately
2 400
employees

Nearly **130** structures /
research entities

12 five-year groups (G5s)

Demographic challenge:
to renew the age pyramid
of researchers

Scientific challenge:
a level of qualifications at
the forefront of science
today

**Human Resources,
where we stand today:
challenges to fulfil our
scientific vision**

The Institut Pasteur has today around 2,400 employees. All of whom are dedicated to the excellence of Pasteurian research. However, in order to be able to draw from the best talent now and in the future, the Institut Pasteur faces certain challenges.

AROUND 2,400 EMPLOYEES DRIVING THE PASTEURIAN VISION

Today, the Institut Pasteur has approximately 2,400 employees, under different contracts: 81% are direct employees of the Institute, the rest are primarily from research organisations (CNRS and Inserm) and universities, included in the term "OREX" (external research organisations). The personnel within the Institute are divided into diverse positions: scientific, engineering, administrative and technical staff. About 500 researchers hold a permanent position (approximately 300 employees of the Institute and 200 employees from external research organisations), 260 post-doctoral students, 200 doctoral students and 200 research engineers work and study at the Institut Pasteur. The scientific body is organised into around 130 research units (including 12 "G5s", small research groups created for a period of five years for young scientists with high potential).

DEMOGRAPHIC AND SCIENTIFIC CHALLENGES TO ACCESS THE BEST TALENT

Our organisation faces two challenges in order to achieve our goals of enhancing and extending the excellence of Pasteurian research.

The first is a demographic challenge. We must renew the age pyramid of our researchers.

Several research units will close in the coming years, in part due to planned retirements: 16 research facilities are likely to close in 2014-2015 and between 40 and 50 before 2020. The second challenge is scientific: the

qualifications of our staff must meet today's requirements in science and scientific research. One of the indicators that there is room for improvement is with regards to EU funding: whilst having been successful in the calls from the European Research Council, the Institute can still achieve more. To best meet these challenges, we have set our sights on an ambitious plan, on the one hand in terms of recruitment, and, on the other hand, in terms of career management. It is important for us to innovate whilst maintaining a balance between the attractiveness of our job opportunities and our internal career paths.

OUR RECRUITMENT AMBITION: TO IMPROVE THE COMPETITIVENESS AT THE INSTITUT PASTEUR

Our objectives in terms of recruitment are guided by our scientific vision, which is at the same time curiosity driven, interdisciplinary, and focused on key areas of research.

TARGETING RECRUITMENT AT INTERNATIONALLY-MINDED YOUNG AND MID-CAREER RESEARCHERS

We will focus recruitment on young and mid-career researchers; in addition, six senior hires are planned by 2018, in particular in the Institute's priority areas of research. To attract high-potential junior researchers, we will continue the program of 5 year research groups, the so-called "G5s". Between 2000 and 2013, 35 G5s were created, of which 80% were transformed into units. Within 4 years, we plan to create 16 new G5s, with a target of transforming 60-70% into units. Regarding mid-career and senior researchers, we plan to create 25 research units over the next 4 years, 15 of which to be external, and the recruitment of about 15 mid-career and senior scientists. To further improve the appeal of our proposals, we will also develop "packages" that support international careers beyond a purely competitive remuneration, and we will create in addition "Chairs of Excellence" at the Institut Pasteur. Reinforcing our human resources within the Institut Pasteur International Network will



also be supported by the creation of research groups specially conceived to attract a new generation of young scientists from around the world.

AN UPDATED STRATEGY REGARDING CALLS FOR TENDER

Two types of tenders have been put in place from 2014: an annual call for projects, open, in fields of specified priority research at the Institut Pasteur (microbiology and infectious diseases, immunology, developmental biology, neuroscience, genetics and cancer); and targeted calls for projects in line with ad hoc needs, consistent with our scientific vision, for which Search Committees identify the best candidates. As part of the same objective, we will develop a program specially designed to strengthen the welcoming of “visiting scientists”, in order to support the development of research units and the scientific strategy of the Institut Pasteur by the mobilization of experienced non-Pasteurian researchers, whether they be French or International.

Our ambition for the management and monitoring of careers at the Institut Pasteur: a new model, adapted to the needs of today’s research

Attracting top level talent is essential; so is the special and fundamental attention we want to dedicate to career evolution. For each Pasteurian – for those who are already part of the Institute, those who will join us, or scientists coming from external research

organisations – this point is a prerequisite the Institut Pasteur has to offer to enhance performance and personal satisfaction. We intend to improve career management in several key areas.

RECOGNISE DIVERSE CAREER PATHS

For our tenure researchers, it is important to better showcase the diversity of paths the Institut Pasteur can offer them. The Institut Pasteur gives the researchers many opportunities of inspiring career evolutions, such as: leading and managing a research group, getting involved with the Institut Pasteur International Network (for example, positions of Director of Pasteur Institutes of the Network will be open), joining a mission about translational research or about partnerships with industry, dedicating to teaching and sharing of knowledge, or developing communication or administrative management, amongst other options. With the help of our new Careers Committee, and via a 5-yearly career assessment, each researcher will be offered the relevant options that correspond with his own ambitions. We will also focus on the mobility of researchers, whether internally, within the Institut Pasteur International Network, or externally, within other research institutes and universities. As part of its strategic plan, the Institut Pasteur will also pay special attention to facilitating the access of women to positions of responsibility, as it improves its flexibility with regards to career management. The Institut Pasteur will also develop new services to better facilitate a balance between professional and personal commitments.

REVIEW INCENTIVES AND THE EVALUATION PROCESS TO BETTER STIMULATE INNOVATION AND THE VALORISATION OF OUR RESEARCH

Career assessment and support will be aligned with our objectives.

To boost scientific excellence we will create three Chairs, of different levels, from 2015. The responsibilities will be selective and reversible for a period of 3 years and can be cumulative with other bonuses. Similarly, to better reward excellence, there will be changes in compensation and reward mechanisms based on defined principles. First, we want to acknowledge both individual and collective contribution. When it comes to individual targeted measures we want to ensure coherence between internal promotions and external recruits. We will increase base salaries at the same time as improving performance-based rewards against measurable criteria. As a general rule, regarding these measures, OREX researchers should be considered on par with those from Pasteur, as a result of our close cooperation with CNRS and INSERM.

PROMOTE INTERNATIONAL MOBILITY AND MOVEMENT OF TALENT WITHIN THE NETWORK

Our International Network is an important part of our career management and recruitment strategy. To boost mobility within the Network, from 2014, researchers recruited by the Institut Pasteur will work at least three months in an affiliated establishment at some time during the first two years of their course. Career opportunities will also benefit from the opening up of directorships within the Institute’s Network. As a general rule, work



methods and career management at all levels will incorporate an international dimension, whether in training or development, project management methodology or the evaluation of individual and collective performance.

ENGAGE IN DYNAMIC MENTORING OF YOUNGER RESEARCHERS

The Institut Pasteur is committed to offering rewarding careers and opening up career prospects, for doctorates or post-doctorates, internal or external candidates.

The management of Non-European post-doctorate contracts will be given greater flexibility. The welcoming and support given to young researchers will be guaranteed by a dedicated staff to help develop personalized follow up, and successful integration of foreign researchers.

QUALIFICATIONS AND SKILLS TO MEET THE NEEDS OF TOMORROW'S SCIENCE

The missions and skills of technical staff will also be redefined. They will be fine-tuned to better facilitate research work, and evolve in line with the needs of modern science. This will take place as part of the updating of job descriptions at the Institut Pasteur. They define a new model in terms of recruitment, talent management and career tracking that combines the Pasteur vision and the requirements of research today. Appeal, reward for performance, as well as scientific discovery: the Institut Pasteur intends to provide researchers worldwide with a highly competitive and deeply enriching research environment.

OBJECTIVES

- Create **16 G5s** in 4 years
- Create **25 research units**
- Reinforce the **“visiting scientists”** program
- Create **new research structures** within the Institut Pasteur International Network
- Guarantee **competitive offers** for recruitment
- Reinforce the **competitiveness of internal careers**
- Create **research Chairs** rewarding the excellence and commitment of our researchers
- Update **job descriptions** at the Institut Pasteur
- Promote a **wide range of career** paths and open the Institute up to external mobility
- Reinforce **international mobility**
- Adopt a future **profit-sharing agreement** for all staff



04

TEACHING AND EDUCATION

OUR PASTEURIAN HERITAGE AND A KEY TO OUR FUTURE

Teaching and education have always been at the heart of the Institute's mission and will continue to play a fundamental role in its future. The Institut Pasteur brings together the very best researchers and students in their respective fields from around the world, those behind our scientific beliefs today and those who will shape our scientific vision tomorrow. Teaching is both a scientific journey and a human adventure which celebrates transmission, high expectations and curiosity and for this reason, our teaching activity is a key part of our strategic vision. Renowned for its quality, the Pasteur scientific teaching has a heavy emphasis on experimentation and practical work, and owns today a unique Pasteurian DNA, that is both its strength and its singularity. There remain however many untapped opportunities to take the Institut Pasteur to the next level as an international Center of excellence for education.



Institut Pasteur

ATTRACT TO THE INSTITUT PASTEUR HIGH CALIBRE STUDENTS FROM AROUND THE WORLD.

500 participants
of the Institut
Pasteur's courses
60 nationalities
represented

Teaching and education, where we stand today: an education of excellence, with untapped opportunities

Based on strong foundations, the teaching at the Institut Pasteur has room to grow internationally, with emphasis on the opportunity presented by digital technology.

A HISTORICAL MISSION OPEN TODAY TO A BROAD SCIENTIFIC AUDIENCE

Teaching and education have two dimensions at the Institut Pasteur: the courses taught at the Educational Center and also the welcome offered to young scientists in training. The Teaching Center welcomes annually nearly 500 students from 60 countries either embarking on initial or continuous training: Masters students (nearly 200 each year), PhDs (100 per year, some of whom are part of international doctoral programs), scientists, health professionals and personnel from the Institut Pasteur International Network. In the academic year 2013-2014, the Institut Pasteur organised some 30 courses, the equivalent of approximately 3800 hours of teaching.

A STRONG SCIENTIFIC IDENTITY IN THE PASTEUR TRADITION

Courses are organised by subjects in-line with the Pasteur tradition: Biology of Microorganisms, Mechanisms of Living Organisms and Epidemiology and Public Health.

Taught by high-level scientists, with the benefit of advanced equipment, lessons focus on the interactions between speakers and participants and the transmission of knowledge through experience gained from practical work and discussions.

DYNAMIC PARTNERSHIPS, ON A NATIONAL LEVEL

Within France, the Paris-Descartes, Pierre et Marie Curie, Paris-Diderot and Paris Sud Universities are key partners in our educational achievements, Masters 2 or PhD students being hosted in our own research facilities. The Institut Pasteur also enjoys a strong partnership with the CNAM (French "Conservatoire national des Arts et Métiers"), as part of the Institut Pasteur-CNAM School of Public Health.

INTERNATIONAL VISIBILITY, TO BE FURTHER IMPROVED

Since 2009, the Institut Pasteur has established the Pasteur-Paris University International Doctoral Program in collaboration with the Universities of Paris-Descartes, Paris-Diderot and Pierre et Marie Curie. This program, entirely in English and open to holders of a Masters issued by a foreign institution, is highly competitive vis-à-vis the courses proposed by European and international universities. It aims to attract to the Institute top students from around the world. Fifteen coming from six different countries joined the program in 2013. Herefrom, the influence of our teaching activities abroad can and should be further increased.

A DIGITAL MOOCS AND E-LEARNING PRESENCE, TO GO FURTHER

As part of the Pasteur-CNAM School of Public Health, the Institut Pasteur has established a MOOC (Massive Open Online Course) on epidemiology, focused both on theory and methodology. This course was followed by nearly 3,000 men and women of whom 540 passed the exam. Such a high rate of follow-up (19%) - compared to MOOCs norms - is proof of the quality of the education offered. This first success must now be built upon as part of a sustained commitment to digital tools and e-learning.



Our ambition: Increased means to allow the Institut Pasteur to become an international reference in education

Education is both a priority and a key tool in our strategic vision at all levels - scientific projects, talent development, and the international influence and the valorisation of our research. We intend to give the Institut Pasteur the means to deliver a scientific education of the highest international calibre. Several areas have been identified in order to achieve this.

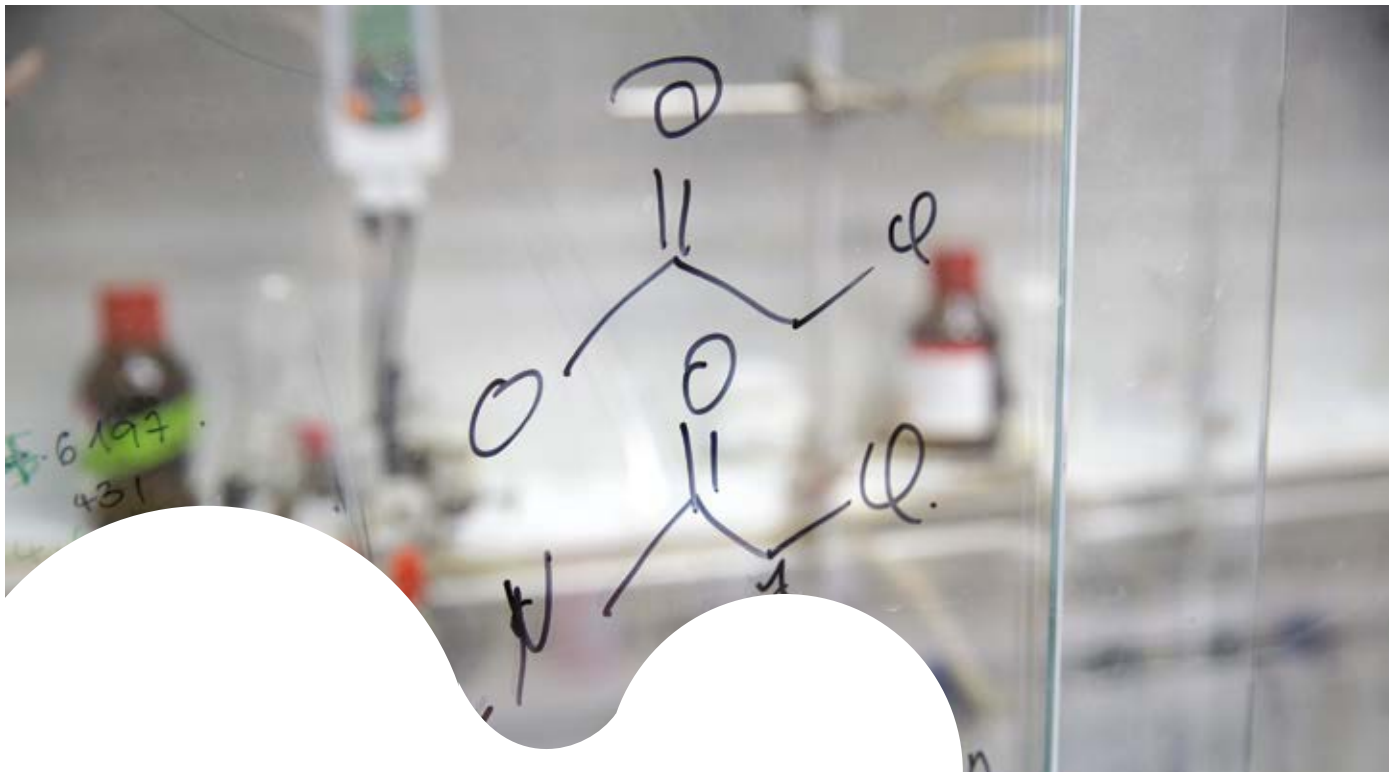
STRENGTHEN THE INTERNATIONAL DIMENSION AND VISIBILITY OF OUR EDUCATIONAL ACTIVITY

The international reputation of the Institut Pasteur can be furthered by increasing the number of exchanges between faculty members, students and partners from around the world. To maintain a global network of high level scientists trained at the Institut Pasteur, the ““Pasteur-Paris University International Doctoral Program” set up in 2009, aims to treble its number of students by 2018. This significant expansion will be accompanied by special partnerships with institutions of excellence. Moreover, the Institut Pasteur International Network will be further incorporated into our education policy and the curriculum will see its international dimension considerably expanded.

HIGHER DEMANDS ON EDUCATIONAL CONTENT, INCREASINGLY INFLUENCED BY MODERN DAY SCIENTIFIC CHALLENGES

In order to offer high level scientific content that is attractive and competitive we will employ diverse strategies. Strengthening interdisciplinary research is a top priority. For this, we plan to strengthen our partnerships with universities that offer open, innovative teaching, and to facilitate inter-disciplinary exchanges. A special partnership is planned with the Centre de recherches interdisciplinaires (CRI, Interdisciplinary Research Center), a partnership with Universities Paris-Descartes and Paris Diderot for programs at the intersection of natural, life, social and cognitive science. Our second priority is to create new courses and to increase the endowment of existing courses in order to position ourselves, in line with our scientific views on these subjects, on emerging topics such as bioinformatics, biostatistics or integrative and quantitative biology. Three new courses will be created within the Institut Pasteur by 2018. Finally, the Institut Pasteur intends to place greater emphasis on medicine, pharmacy and veterinary medicine in its teaching. An MD -PhD program will open in partnership with top universities, whether French or International.

THE “PASTEUR-PARIS UNIVERSITY INTERNATIONAL DOCTORAL PROGRAM” WILL BE SIGNIFICANTLY STRENGTHENED TO TREBLE ITS NUMBER OF STUDENTS BY 2018.



E-LEARNING AND MOOCS: FOCUS ON NEW OPPORTUNITIES PRESENTED BY DIGITAL

Digital and online teaching has created a revolution in education. The Institut Pasteur is naturally open to this change. To maximise our ability to share our teaching around the world, we have planned to create new MOOCs. The Institut Pasteur also actively promotes the development of e-learning sites.

STRENGTHEN LINKS WITH BUSINESS AND INDUSTRY

The Institut Pasteur believes in the importance of creating value around its research. Our teaching should reflect this. Therefore, we are investing in programs that strengthen our links with industry, particularly through training modules that focus on entrepreneurship via a close, innovative collaboration with industry, academics and start-ups.

BOLD REAL ESTATE PROJECTS AND THE FINANCIAL MEANS TO MEET OUR AMBITIOUS PLANS FOR EDUCATION

The Institut Pasteur plans to invest in accordance with its educational ambitions. Plans to build a dedicated teaching campus are underway, an open site designed to facilitate the flow of ideas and knowledge, essential today in any sphere of innovation. The building work of an international teaching and training Center is due for completion in 2017. It will consolidate and increase the space available for teaching and provide the best equipment in terms of quality and safety. In addition, the communication on all of our research and education will be improved in line with the quality of our academic and scientific proposals. The educational projects of the Institut Pasteur are backed by a significant increase in the financial resources available.

OBJECTIVES

- **Treble the number of students** in the Pasteur-Paris University International Doctoral Program by 2018
- **Create new courses** on emerging themes (e.g. integrative biology)
- **Establish new interdisciplinary programs**
- **Create new MOOC** and e-learning sites
- **Construct an international** teaching and training Center by 2017



05

THE INSTITUT PASTEUR INTERNATIONAL NETWORK (IPIN)

A GLOBAL VISION FOR THE INSTITUT PASTEUR IN THE WORLD, FOR THE WORLD

The Institut Pasteur stands at the heart of the Institut Pasteur International Network (IPIN), a network of 32 institutes, promoting international exchange and cooperation in public health, education and research. This network is a key for the future of our institution. To take it into a new era and for it to become a strategic driver of the Pasteurian project, many challenges lie ahead as we engage to: consolidate its global strategy, ensure its visibility on the world stage and align this with the major global health and research issues of the day - with targeted, adapted and ambitious tools.

THE INTERNATIONAL NETWORK, A KEY COMPONENT OF THE FUTURE OF THE INSTITUT PASTEUR, NOT AN ADJUNCT TO ITS ACTIVITY.

32 Institutes around the world

Present on **5** continents and in **25** countries

A global player in the surveillance and the fight against infectious diseases

64 WHO Reference Centers in Paris and in the Network

(of which 11 are WHO Collaborating Center - WHO-CC)

Institut Pasteur International Network, where we stand today: a remarkable asset to take into a new vision

AN INTERNATIONAL INSTITUTE AT THE HEART OF GLOBAL AND "ONE HEALTH" CHALLENGES

The Institut Pasteur International Network (IPIN) has 32 institutes across five continents, located in 25 countries. This network over time has been fortified by a common scientific foundation and shared values: this in itself is a unique asset in the world for research and interdisciplinary biomedical education. The Institut Pasteur in Paris has responsibility for the appointment of the Director as well as administrative and scientific management of these Institutes. The Network plays a major role in research, education and public health. The Pasteur Institutes are at the forefront of the fight against emerging, re-emerging and infectious diseases via many collaborative and training programs, as well as a capacity to intervene in any health crisis. The Network also drives visibility, institutional partnerships and academic and industrial partners worldwide.

CHALLENGES AND AREAS FOR IMPROVEMENT TO BRING THE INTERNATIONAL NETWORK ADDITIONAL SCIENTIFIC AND STRATEGIC SCOPE

Worldwide, science is experiencing a profound conceptual revolution with the emergence of the concepts of "Global Health" and "One Health", which seek to combine human and animal health, the environment and ecosystems. In this context, and in an international environment of highly competitive research, the Network is a major asset and one of the great strengths of the Institut Pasteur. To place it concretely at the heart of our new strategy several challenges must be faced.

Considerable improvements in coordination have been made in the past few years throughout the entire network, but room for improvement remains. The International Network still needs to develop an inclusive, comprehensive strategy and increase its visibility worldwide. Interactions between the Institut Pasteur in Paris and Institutes in the rest of the world remain insufficient. Over the past years, the geographic mobility of personnel within the Institut Pasteur and its networks has been in steady decline. In addition, the Institut Pasteur's relatively low financial contribution for the Network maintains it an significant dependency on external resources, which account for nearly 60% of its budget.

Our ambition: an integrative and multidisciplinary scientific strategy with the Network at the heart of the Pasteurian project

The Institut Pasteur is an International research Institute based in France. As such, we believe that the International Network is key for the future of our Institution. To put this vision into place we have defined several priorities.

THE DEFINITION OF AN AMBITIOUS GLOBAL SCIENTIFIC STRATEGY

The Network is a key element of the Pasteurian strategy and shapes our actions whether at a human, scientific, technological or economic level. It will require a paradigm shift, with the need for a defined, comprehensive and ambitious scientific strategy, coordinated across all branches of the Network. Several scientific sessions will strengthen this dialogue. Under the guidance of each Institute's scientific "council", a global scientific committee will be established, led by a scientific Director of the Network. This committee will also improve visibility and coherence vis-à-vis funding and opportunities for scientific



collaboration. This strategy needs to be defined at different levels: locally, regionally and nationally, respecting the fact that each institute is part of their own ecosystem of research. This ecosystem can be national, via a public health role (including a national reference center) played by the Pasteur Institutes in many countries, but also global, in order to establish the International Network as the contact person vis-à-vis global players (such as WHO, the Wellcome Trust and the Gates Foundation, etc.). This consultation will take place with our existing partnerships and networks at a national (in particular AVIESAN) and international level.

THE INTERNATIONAL NETWORK AS A PLATFORM FOR TALENT AND CAREER ACCELERATION

The expansion of our Network relies primarily on the individuals who carry out Pasteurian research. Therefore, the International Network is a vital aspect for us in recruitment terms and career evolution. To encourage mobility within our Network, from 2014 onwards, researchers recruited by the Institut Pasteur will during the first two years of their course work at least three months in one of the Network Institutes. In addition, career prospects will benefit from the opening up of Directorships within the Network. The “visiting scientists” program, which sends senior researchers from the Parisian campus to assist Network institutions with scientific strategy or the development of their laboratories, will also be reinforced.

The International Network will see its human resources strengthened in particular by the creation of new research groups whose mission will be to attract a new generation of young scientists from all over the world.

INNOVATIVE TOOLS FOR INTEGRATIVE, MULTI-DISCIPLINARY RESEARCH, CREATING VALUE THROUGHOUT THE NETWORK

Productive synergy and exchange between the various members of the Institut Pasteur International Network is an important accelerator of innovation and research performance. Creating tools and building initiatives that make the IPIN a knowledge-based network, fostering communication and real-time sharing of information and best practices, will be our mission. We have identified key priorities for a new integrative and multi-disciplinary research structure, in line with our vision of the scientific challenges of today. Each one of our transversal research programs will now have to partner with at least one Institute within the Network. Mixed teams between the Institut Pasteur and Institutes of the Network will be created. In terms of career assessment, productive collaborations across the Network will be taken into consideration and encouraged. The incorporation of the Network will also happen through education. Our teaching online and the MOOC (massive open online courses) will be developed with this end in mind. New key measures have also been defined in the field of bioinformatics with the recruitment of a Network coordinator

and the implementation of cloud computing that will connect to the Institut Pasteur’s future bioinformatics center. Technological transfer and translational and clinical research across the Network will also be assessed. The Network is thus a major asset that will help boost our resources and biological collections: our international network of human and biological resources will now be backed up by ambitious technological means allowing us to pool the extraordinary diversity within the Institut Pasteur. This will not only advance research but also our public health activities, epidemiological surveillance and the microbiological of infectious diseases.

THE INTERNATIONAL NETWORK, A DRIVING FORCE FOR THE INSTITUT PASTEUR’S PUBLIC HEALTH STRATEGY

Operating on five continents, IPIN is the designated tool for our global and “One Health” approach to public health. The Network will closely cooperate with the Center for Global Health Research and Education, responsible for coordinating the global health strategy at the Institut Pasteur at the highest level, training experts and future leaders in global health, and stimulating interdisciplinary international research projects. The network will also fully cooperate with the new center for Biomedical and Translational Science, which aims to strengthen cross-fertilization between medicine and Pasteurian research. Other areas will be shared across the Network: surveillance, monitoring and alerts



or applications regarding research results (clinical research, clinical trials, or the evaluation of new diagnostic tools). In particular, on issues of global public health we are anticipating the development of research in consortia, regrouping Institutes from several countries on the basis of innovative and complementary approaches between human, animal and environmental health. We will also strive towards the pooling of resources in response to situations of international health crises.

A NEW DEPLOYMENT OF THE NETWORK IN LINE WITH CURRENT GEOPOLITICAL AND HEALTH PRIORITIES

The Institut Pasteur is undergoing a strategic reflection on the Network's worldwide locations, redefining its new geographic scope of international cooperation that includes partnerships with industrialized countries (United States), emerging countries (India, Brazil), the Middle East, and developing its presence in Asia (Japan, China, Korea). Indeed, the International Network is

part of a deliberate collaborative approach with other networks and international biomedical initiatives.

This commitment to a strong, unified and dynamic Network, in support of all of these projects, relies upon developing partnerships and securing financial resources, a strengthening of scientific and administrative management, and overall, a significantly reinforced commitment by the Institut Pasteur regarding budgetary and administrative support of the Network.

OBJECTIVES

- Reinforce the mobility of researchers
- Create new research structures adapted to the Network
- Create new consortia of research into major themes of international public health
- Reinforce the presence of Network Institutes in the incentivised research programs
- Implement, within the International Network, transversal projects relating to bioinformatics
- Create a shared network between Paris and the International Network dedicated to biological resources
- Beyond our own Network, develop an ambitious strategy of international partnerships



06

RESEARCH ORGANISATION

POOLING RESOURCES AND SHARING KNOWLEDGE, IN LINE WITH OUR SCIENTIFIC VISION

The far reaching scientific ambitions of the Institut Pasteur, innovative, open and collaborative, require a restructuring of its research organisation that is perfectly in line with its priorities. Currently organised by department, the Institut Pasteur has begun an ambitious restructuring process, a transformation that will be transversal, interdisciplinary, and best able to pool our available resources from around the world. Creating inter-disciplinary research centers is one of the cornerstones of this new approach, one that and will necessitate additionally the reorganisation of our technological platforms and the constant integration of major current technological developments. The paradigm shift applies also to our use of the Pasteurian biological resources and collections, a considerable leverage for us in terms of research, innovation and valorisation for the entire Pasteurian Network.



Institut Pasteur

ORGANISE RESEARCH FOR OPEN, INNOVATIVE AND TRANSVERSAL SCIENCE.

11 research
departments

Around **130** research units

High level technological
platforms (Imagopole,
Genopole, Proteopole,
Animal facilities,
Insectarium

An exceptional collection
of biological samples

**Organising our research,
where we stand today:
the pooling of our scientific
and biological resources,
a strategic challenge**

To support its research priorities, the Institut Pasteur has a wealth of resources available, whether they be human, technological, scientific or biological. Nevertheless, in this highly competitive international environment, it is important that we aim for ever greater flexibility within the organisation.

THE STRUCTURE OF OUR RESEARCH: THE NEED FOR A TRANSVERSAL APPROACH

The Institut Pasteur is organised into 11 scientific departments, themselves composed of around 130 research entities (research units and “five-year-research groups”, called “G5”). These research teams have at their disposal some 13 technology platforms that use state of the art equipment: Genomics and Transcriptomics, Molecular Biophysics and Proteomics, Animal facilities and Imaging (Imagopole). Within this structure, the Institut Pasteur aims to facilitate the exchange of resources and knowledge, in particular via transversal and incentivised research programs, designed to gather several research teams both from our Paris Campus and from our International Network behind specific, long or short term projects.

Cooperative exchanges between research teams also take place within our three « Laboratories of excellence » (LabEx): REVIVE (Regenerative Biology and Medicine, on Stem Cells and Regenerative Medicine), Milieu intérieur on the genetic and environmental control of immune

responses and IBEID, Integrative Biology of Emerging Infectious Diseases. To fully adapt to the paradigm shifts of today’s science, the Institut Pasteur must go further and, as a world-leading scientific institution, invest in a fully transversal organisation.

FOCUS ON BIOLOGICAL RESOURCES: PART OF THE PASTEURIAN IDENTITY TO BE AUGMENTED THROUGH INCREASED NETWORKING

Our biological samples collections are an integral part of our research activities. They are of excellent quality. This is a strong and specific feature of the Pasteurian research. Exceptionally rich, they are made up of the collections of the Institut Pasteur, of the National Reference Centers, of the WHO Collaborating Centers, and also with collections of fungi and cyanobacteria. The Pasteur Institutes of our International Network also have outstanding collections. We must protect, exploit and develop further this unique microbiological heritage. Today, our collections are dispersed on the Parisian campus, whilst the International Network of our Institutes plays a small role in their use and valorisation. This lack of coordination threatens the conservation of our collections, limits their use in research, their ability to be used to generate income, as well as their international visibility. Their use is equally restricted by prohibitive legislation, and a still limited access to new sequencing and typing technologies. In order to make the most of our extraordinary collections it is important to organise them in such a way that accelerates reciprocity and the sharing of data. Further, the Institut Pasteur must evolve and adapt in line with the technological revolution that has taken place in the field of diagnostic microbiology, with the development of mass spectrometry, genomics and bioinformatics.



Our ambition: a research organisation that is innovative, transversal and open

The need for research to become transversal and interdisciplinary is a belief we hold strongly. The Institut Pasteur is committed to an ambitious remodelling of its research structures as it adapts to this change. In addition to new transversal and incentivised research projects, this significant change will come from both the creation of new research centers and a reorganisation of our biological resources.

CREATION OF INTER-DISCIPLINARY RESEARCH CENTERS: THE KEYSTONE OF THE NEW PASTEURIAN ORGANISATION

The Institut Pasteur is changing its research model to encourage a greater exchange of ideas and information within the campus and across the Institut Pasteur International Network. Key to this will be the creation of new research centers, structured transversally to complement the previous departmental structure. The creation of these centers is not intended to change the overall structure of the departments of the Institute. The centers lie at the intersection of different departments, allowing our researchers to carry on working within their units, and at the same time exchanging their know-how, advancing their current projects, and, importantly, initiating together new, ambitious, interdisciplinary projects. Four research centers will emerge in the short and medium term: the Center for Biomedical and Translational Science, the Center for Global Health Research and Education, the Center for Innovation and Technological Research and the Center for

Bioinformatics / Biostatistics and Integrative Biology. They will improve the visibility of the Institute in existing areas of strength and encourage new areas of discovery. They will provide an improved interface with the Institut Pasteur International Network, the Carnot Institutes and the Technological Research Institute (IRT) BIOASTER and bring a decisive competitive advantage in terms of international visibility and appeal. Finally, they will allow for preferential access for our academic and industrial partners.

THE CENTER FOR GLOBAL HEALTH RESEARCH AND EDUCATION, KEYSTONE OF OUR PUBLIC HEALTH STRATEGY

The new Center for Global Health Research and Education (CGHRE) will coordinate our public health strategy between the Institute of Paris and the International Network. The CGHRE aims to examine all major public health issues with the use of “omics” advanced technologies (in particular genomics).

It will carry out novel research projects with a high added value for public health, with an interdisciplinary focus, using studies that better incorporate the interactions between human health, animal health and the environment in a “One Health” approach. As part of its truly global approach to health, the center will focus on both infectious diseases and non-communicable diseases such as metabolic disorders or cancers. It will have at its disposal the remarkable diversity of biological resources of the Institut Pasteur and its Network. The CGHRE will play a major role in the education and training of our future global health leaders in addition to providing the necessary impetus towards inter-disciplinary and international research projects.

THE CENTER FOR BIOMEDICAL AND TRANSLATIONAL SCIENCE, A BOOST TO TRANSLATIONAL RESEARCH

The Center for Biomedical and Translational Science will consolidate the management of clinical research and ensure its development via the latest technology as it ensures close coordination between the hospital academic staff and industry partners. Pro-actively, the center will identify and call upon the relevant people in each department or research unit within the Institute in order to improve and inspire ever more dialogue between medicine and Pasteurian fundamental research. It will provide a single point of contact, responsible for stimulating upstream new innovative projects and validating all research projects relating to translational medicine as it provides a platform for exchanging ideas and scientific discussions.

THE PASTEUR CENTER FOR INNOVATION AND TECHNOLOGICAL RESEARCH (PASTEUR CInTeR), ACCELERATOR OF TECHNOLOGY FOR THE PASTEURIAN TEAMS

Basic and applied biological research requires tools and increasingly sophisticated technologies to measure, analyse and model complex living matter. Mastering these technological advances has become a major competitive advantage for research departments. The ability to innovate in the realms of technology is not only an additional asset but a new source of income via intellectual property and licensing. The CInTeR will play several roles: to promote research and technological innovation in line with current and future needs at the Institut Pasteur and its Network, to overcome the technological barriers that can hinder research and its application, but also to anchor a technological awareness and



THE CENTER FOR BIOINFORMATICS / BIOSTATISTICS AND INTEGRATIVE BIOLOGY, A REFERENCE IN BIOTECHNOLOGY

Scientific and biological research has entered the era of big data: the ability to store, share, protect and exploit a huge amount of data is today a key strategic question for any world ranking research institute. The Institut Pasteur strategically engages with this challenge, creating the Center for Bioinformatics / Biostatistics and Integrative Biology, which will coordinate all our available resources and projects regarding bioinformatics.

This center will build on the existing strengths within the Institute, but also on the expertise of bioinformaticians and senior researchers in bioinformatics and integrative biology recruited on an ad hoc basis. In addition to its mission of coordination, pooling resources and developing advanced tools in biotechnology supporting all our research activities, the center will also play a role in training and scientific education throughout the Pasteurian Network.

THE PASTEUR INTERNATIONAL BIOBANK NETWORK (PIBnet): STRUCTURING OUR BIOLOGICAL COLLECTIONS IN AN OPEN AND COLLABORATIVE WAY, TO ACCELERATE RESEARCH AND GENERATE VALUE

The Institut Pasteur will further its support of the biological collections, a major research asset placing the Institute at the highest level in terms of research and economically productive scientific projects. These collections must be coordinated and standardised within the Institut Pasteur. The activity of the Institut Pasteur in Paris should be better coordinated with the Institutes of our International Network so that all our

researchers and our academics, institutional and industrial partners, have access to an effective portal that is clear, comprehensive and easy to use. To this end the Institut Pasteur plans to develop an innovative tool, namely the Pasteurian International Biobank Network (PIBnet). This network will improve and stimulate communication between the Institut Pasteur, National Reference Centers (NRC) and the WHO Collaborating Centers (WHO-CC) as part of our public health mission, in coordination with our International Network. The sharing of our biological resources through PIBnet will achieve several objectives: it will help to provide better responses to public health needs, but also to generate ambitious academic projects that will better enhance, preserve, protect and share data worldwide in line with the new international demands in biological heritage. It will also help identify new financing models via an improved commercial and industrial valorisation of our collections.

In addition, this tool will accelerate the incorporation of technological developments, such as genome sequencing and the characterisation of micro-organisms, bioinformatics capabilities or the storage capacities of micro-organisms, as part of our overall objective of strengthening our microbiological expertise.

expertise within the Pasteurian identity in addition to providing researchers with new career opportunities. It will coordinate the activity of technology platforms and allow, within these platforms, a better balance between the management of the services activities and the technological research, the only way to swiftly adopt technological and scientific advances. It will also stimulate dialogue between all our research entities, as well as between the Institut Pasteur and its institutional partners, industry and academia (in particular the engineering schools) for whom the center will be a single point of contact for all technological questions. Finally, the CinTeR will aim to challenge the research priorities and the whole organisation of the Institut Pasteur so as to carry on identifying the most innovative and relevant technologies.

OBJECTIVES

●● Create 4 Centers for Transversal Research:

- The Center for Global Health Research and Education
- The Center for Biomedical and Translational Science
- The Center for Innovation and Technological Research
- The Center for Bioinformatics / Biostatistics and Integrative Biology

●● Create at the heart of the Paris Campus and the International Network, a tool to share and circulate our endeavours in a modern approach to microbiology diagnostics.



TRANSVERSAL AND INCENTIVISED RESEARCH PROGRAMS

07

ADAPTIVE TOOLS FOR INCREASINGLY BOLD, RESULT-ORIENTED RESEARCH

In an environment of continuous change with regards to science and technology, and a European and International context, the Institut Pasteur embarks upon an ambitious transformation of its research organisation: flexibility, transversality and the pooling of resources and knowledge across the Pasteur Network are the watchwords of this structural change. Alongside new research centers and the restructuring of our biological resources, the development of our transversal and incentivised research programs is a valuable tool to accentuate collaborative, open research and enhance its international visibility and social impact. These programs take different forms depending on research needs: Transversal Research Programs, Inter-Pasteurian Concerted Actions, Targeted Incentivised Actions and Major Federating Programs. This flexibility is part of the Pasteurian desire for an interdisciplinary approach, coordinated by our new Grant Office.



Institut Pasteur

FACILITATE COLLABORATION BETWEEN RESEARCHERS, DISCIPLINES AND RESEARCH ENTITIES TO BEST SERVE OUR SCIENTIFIC PROJECTS.

Transversal and incentivised research programs, where we stand today: flexible, innovative programs and initiatives to accelerate the interdisciplinary dimension of research

Several types of transversal and incentivised research programs have been established by the Institut Pasteur to facilitate collaboration between researchers, disciplines and research entities to service scientific projects that require a transversal approach. They are fully adaptable depending on the size or the constraints of the project involved.

TRANSVERSAL RESEARCH PROGRAMS (TRP)

Transversal Research Programs aim to initiate new subjects of interdisciplinary research. They bring together departments and research units on targeted short and medium-term projects, around areas that are innovative or of strategic importance for the Institut Pasteur. Several transversal programs are under development around for example, cellular signals in bacterial pathogenesis, real-time imaging of connective tissue for the analysis of molecular mechanisms of inflammation, or around transmission cycles of the Chikungunya virus in Laos. In order to strengthen exchange across the Institut Pasteur International Network, the participation of at least one Institute of the Network is now obligatory in each transversal research program.

INTER-PASTEURIAN CONCERTED ACTIONS (IPCA)

The aim of this program is to encourage collaboration between Institutes within our

International Network. IPCA projects can either be pilot projects, based on an original idea, to innovatively tackle a particular research problem, or they can be the result of a collaborative effort involving at least three Institutes of the Network to develop a project proposal following a call for an identified international project. In both cases, these projects will bring together researchers or teams from at least three different Institutes of the Network for an average of 2 years. A coordinator is appointed for each IPCA, responsible for leading, monitoring and implementing (scientifically and administratively) the project.

TARGETED INCENTIVISED ACTIONS

Targeted Incentivised Actions aim to reinforce existing research avenues. They relate to projects with a specific goal, proposed by researchers on campus and self-financed by the Institut Pasteur. Flexible and adaptive, they are conceived to reinforce priority research subjects such as: infections due to the dengue fever virus, mycology or the role of non-coding RNAs in microbiology (in partnership with the Weizmann Institute).

MAJOR FEDERATING PROGRAMS

With its Major Federating Programs, the Institut Pasteur affirms its research strategy by combining the work of several teams and laboratories on topics of high potential and high visibility. The Institut Pasteur will aim to establish long term financial and industrial partnerships around these programs. Three programs are currently being put in place: the first, up and running, is in vaccinology. The second program will focus on the relationship between microbiota and neuroscience. A third will focus on the links between infection, nutrition and cancer.



Our ambition: renewed governance and a new Grant Office in charge of transversal programs

The Institut Pasteur offers its teams coordination support and dedicated governance with the sole objective of facilitating their endeavours and coordinating their transversal projects.

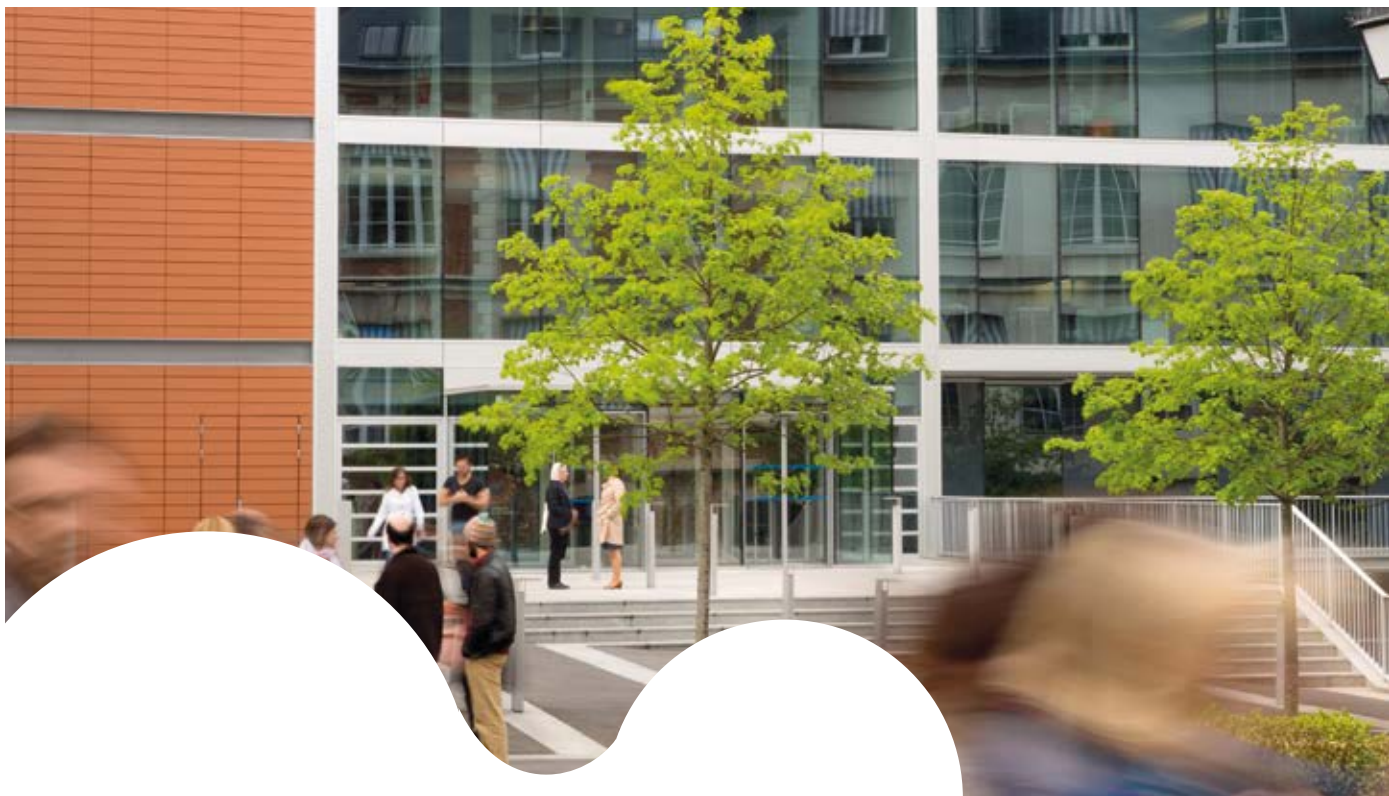
A NEW SERVICE DEDICATED TO TRANSVERSAL AND INCENTIVISED RESEARCH PROGRAMS

The Institut Pasteur will be creating a dedicated service to manage all transversal and incentivised research programs. This service, a coordination platform for researchers and research entities within the Pasteur Network will offer the best tools with which to deploy their projects. It will also prepare new strategic partnerships that will ensure the financial sustainability of these research programs.

A STRONG ROLE FOR THE GRANT OFFICE

The Grant Office, the new head of development at the Institut Pasteur, will be the general platform for coordination of all services and tools dedicated to the promotion of research programs interdisciplinarity. The Grant Office will coordinate the projects in line with our scientific priorities and resources available inside the Pasteur Network. Its role will be to identify research projects eligible for incentive funding and help with their costing. It will play a major role in strengthening the position of the Institute within other European programs. The Grant Office will also support the valorisation of the Major Federating Programs. These Major Federating Programs will compile an expanded and modular “portfolio” of scientific offerings from the Institut Pasteur to its academic, institutional and industrial partners worldwide. The drafting of the projects will benefit from the support of a dedicated

“storytelling” team and will be adapted to targeted donors. A sustained effort of documentation will be built around scientific agendas, social objectives, and the composition of the Scientific Advisory Boards of global donors, as part of a vision of “business intelligence”. The Grant Office carries a strategy that articulates our scientific vision in line with our development goals, with the aim to capture new resources available for research funding. To do so, its activities will be closely connected to the development and international fundraising strategy conducted in areas with high potential: North America, Switzerland, China Southeast Asia and the Middle East.



KEY FACTS

- An annual call for projects for Transversal Research Programs.
- An annual call for projects for Inter-Pasteurian Concerted Actions that call upon both the Institut Pasteur Paris and Institutes of the Network.
- Scientists leading numerous collaborative projects with a variety of research institutions in France and abroad.
- A moderate level of synergy on major projects across the different research units of the Institut.
- Concerted actions between the Institut and the Network in terms of research and development, still underdeveloped today.

OBJECTIVES

- **Place interdisciplinarity** at the heart of the Pasteurian project.
- **Create a variety of transversal** and incentivised programs to meet the needs of the different teams at the Institut:
 - > Jointly controlled Transversal Research Programs and Inter-Pasteurian Concerted Actions
 - > Targeted Incentivised Actions (e.g. Dengue, Mycology, non-coding RNA and microbiology etc.)
 - > Major Federating programs (e.g. Vaccinology, Neuroscience and microbiota etc.)
- **Create a new Grant Office responsible** for facilitating the necessary research synergies within the Institute and the Network
- **Engage new donors** of private and public funds to support the Institute's activities
- **Improve the integration of the Network** via transversal programs that are both diverse and ambitious



PUBLIC HEALTH, MEDICINE AND TRANSLATIONAL RESEARCH

OUR PASTEURIAN LEGACY, A HIGH LEVEL OF COMMITMENT AND AMBITION, PUT TO THE SERVICE OF HUMAN HEALTH

08

Medicine and public health, alongside research and education, have been key missions for the Institut Pasteur since its inception. This involves both epidemiological research and monitoring, the development of clinical research projects for diagnostic testing and vaccines as well as innovative therapies, a training role and translational research activities. The Institut Pasteur intends to encourage fundamental research projects via clinical observation and to facilitate the use of our researchers' scientific discoveries for the benefit of patients. Sanitary and epidemiological issues today require global, innovative, transversal, collaborative scientific approach. To do this, the Institut Pasteur can rely on a strong network of 32 institutes around the world, which will contribute to this objective.



Institut Pasteur

FACILITATE THE USE OF OUR SCIENTIFIC BREAKTHROUGHS FOR THE GENERAL BENEFIT OF PATIENTS.

15 National Reference Centers (NRC)

64 WHO Reference Centers in Paris and in the Network (of which 11 are WHO Collaborating Centers - WHO-CC)

27 courses in Paris and the International Network dedicated to public health.

A Master's degree specializing in public health in the context of the Pasteur-CNAM School

Between 2003 and 2012, **6** clinical development projects implemented to develop innovative therapies and vaccines

Our challenges: to reinforce translational research and better use biological resources

Public health, medicine and translational research, where we stand today: unprecedented commitment needing continuous support

Sanitary and epidemiological monitoring, training, research organisation: the Institut Pasteur has powerful tools put to the service of public health that we can reinforce by a firm focus on translational research and a better use of the International Network .

PUBLIC HEALTH AND HEALTH MONITORING: THE KEY ROLE OF NATIONAL REFERENCE CENTERS AND WHO COLLABORATING CENTERS

Since its inception, the Institut Pasteur has played an expert role in providing health expertise and epidemiological monitoring. This mission is now undertaken by the National Reference Centers (NRC). Created in 1972, these laboratories specialised in microbiology, located in public or private health laboratories, teaching or research institutions, are appointed for 5 years by the Minister of Health following the proposal of the Institute of Health Surveillance (InVS). NRCs are veritable observatories of communicable diseases and centralise information about their area of expertise. 15 NRCs now fall under the responsibility of the Institut Pasteur. Eight National Reference Centers managed by the Institut Pasteur in Paris, and 11 by the Institut Pasteur International Network, are also World Health Organisation Collaborating Centers (WHO CC) and perform the same role but at an international level. The use of innovative technology, such as sequencing and bioinformatics, should help us to better meet current public health challenges, and also to put research into these themes at the forefront of our priorities.

PUBLIC HEALTH TEACHING: THE PASTEUR-CNAM SCHOOL, A CUTTING-EDGE OFFER

As part of its teaching and training mission, the Institut Pasteur has established an educational center of epidemiology and public health which provides 11 courses in

epidemiology, biostatistics, clinical research and vaccinology. Additionally, there are the "Network Classes" taught within the Institut Pasteur International Network (16 classes in 2014). From 2006, a Masters degree specialising in public health, co-accredited by the Conférence des Grandes Écoles (CGE) has been issued by the Pasteur / CNAM (Conservatoire National des Arts et Métiers) Public Health School in partnership with the School of Advanced Studies in Public Health and has gained the interest of a wide ranging audience of professionals (doctors, pharmacists, public officials, etc..) and students completing their courses of study in public health.

THE BIOLOGICAL COLLECTIONS OF THE INSTITUT PASTEUR: A STRENGTH TO BETTER EXPLOIT

In the field of public health, some Pasteurian specificities remain insufficiently exploited. As such, our biological resources and collections available on the Paris campus and within the Institut Pasteur International Network, are an exceptional asset. To better understand the current resources, facilitate their availability for research and further increase their value, we need to improve the way they are organised within Paris and the Network.

CHALLENGES TO FURTHER TRANSLATIONAL RESEARCH

The research activities of the Institut Pasteur are naturally aligned with its public health mission. Our scientific priorities are constantly adapted to ongoing health issues, and our clinical research pole is structured with this responsibility in mind. Between 2003 and 2012 the Institut handled 417 cases, 60% of which were studies on human samples, and 6 projects of vaccine or innovative treatment development. Nevertheless, and despite notable successes such as the Human Immunology Center, Translational Research, i.e. bilateral interaction between medicine and research activities at the Institute, we are well below our full potential. The number of doctors, pharmacists and veterinarians on campus, still too low, does not provide the Institut Pasteur with sufficient critical mass. The



development and strengthening of all clinical research must undergo important restructuring, which will focus on, amongst other things, the missions of existing bodies such as the Institut Pasteur Clinical Research Department and the Clinical Research Committee (CORC). Moreover, the medical center of the Institut Pasteur, a major travel medicine and vaccination center, offers unique opportunities to carry out translational research activities.

Our public health ambitions: a comprehensive strategy for world-leading expertise

The Institut Pasteur supports an ambitious and innovative strategy in terms of public health worldwide, using the latest technological and scientific innovations. This strategy will be coordinated by the new Center for Global Health Research and Education, and will rely on multi-site and interdisciplinary collaborative projects involving the Institut Pasteur International Network.

AN ONGOING TECHNOLOGICAL BREAKTHROUGH: THE «OMICS» REVOLUTION

Research in biology has been undergoing a revolution for the last two decades with the arrival of technologies to sequence genomes much faster and at a much lower cost: a complete human genome can now be sequenced in a few days, at a cost of about 1,000 dollars, while the first complete sequencing required fifteen years of work, and an estimated \$ 2.7 billion. Similarly, new mass spectrometers can be used to identify a growing number of peptides and proteins with much greater precision. This has resulted in a new field of exploration of life sciences, combining disciplines such as genomics, epigenetics (changes in the genome that regulate gene

transcription), transcriptomics (analysis of messenger RNA produced by genes), proteomics (protein analysis from the translation of messenger RNA into amino acids), and metabolomics (analysis of small molecules from cell metabolism), all grouped under the term “omics”. Our ambition is to re-examine the major public health challenges of the day in the light of these new developments. To this end, new centers will be created at the Institut Pasteur in Paris, such as the Center for Biomedical and Translational Science and the Center for Innovation and Technological Research. The Bioinformatics and Statistics Center will be able to process and analyse the vast amounts of data generated by these new approaches (big data). The Center for Global Health Research and Education will provide an integrated view of the use of this new technology so as to address major current public health issues, through multi-site public health research projects, leveraging interdisciplinary expertise and biodiversity provided by an international network with global coverage. The establishment of the new Pasteur International Biobank will allow for the management and valorisation in the most favourable conditions of the Pasteurian biological resources in Paris and the International Network, as well as their sharing via an online inventory of available resources.

MAXIMIZE OUR SCIENTIFIC AND HUMAN RESOURCES, TO LEAD INNOVATIVE PUBLIC HEALTH PROJECTS

This new technology requires the job creation of positions that stand at the intersection of several disciplines: bioinformatics, biostatistics and integrative and quantitative biology for “big data,” genetics and modeling of “systems biology”. Epidemiology will also be

reinforced by the molecular typing of viruses and bacteria to trace microbial strains during epidemics, as well as the study of human genetics susceptibility to infectious disease. An ambitious training program for the newly evolved responsibilities will take place in the Center for Global Health Research and Education. The speciality “infectious Risk” within the Master’s at the École Pasteur-CNAM will be adapted to enable the next generation of public health professionals to understand the use of these new tools in their public health practice and research. In addition to the theoretical training provided in Paris and the Institut Pasteur International Network, masters, doctoral and post-doctoral internships will allow for practical “learning by doing” in the context of research projects funded the Center for Global Health.

INNOVATE IN GLOBAL HEALTH, WITH AN INTERNATIONAL PERSPECTIVE

New technologies, such as high-throughput sequencing, are likely to radically change the way National Reference Centers will operate in the coming years, allowing for the diagnosis and molecular characterisation (e.g. resistance profiling) of pathogens according to syndromic approaches (e.g. respiratory, enteric). These new procedures will be able to be tested at the Institut Pasteur in Paris and be offered across the Institutes of the International Network which fulfil the National Reference Centers role for health ministries in their respective countries. Finally, the establishment of a Task Force to respond to epidemics, involving microbiologists, epidemiologists and clinicians, from Paris and the International Network, should enable a greater responsiveness to the threat of emerging disease, and lead to advanced research in pathogens identified by LABEX IBEID (Integrative Biology of Emerging Infectious Diseases).

MAJOR FEDERATING MULTI-SITE PROJECTS

Major federating multi-site projects will be available on major public health issues such as the control of malaria or dengue, the emergence of antibiotic resistance, or vaccinology. The Institut Pasteur plays a leading role in these fields of research, with the recent identification of molecular markers resistant to artemisinin (the active ingredient used in the malaria treatment currently recommended by WHO) or genetic factors associated with severe forms of dengue. The LABEX study “Milieu Interieur”, to characterise the immunological status of 1,000 healthy individuals in relation to their genetic heritage and their intestinal microbiota, could be replicated in several Network Institutes to identify the determinants of the response to vaccines in different environmental contexts. The completion of these major projects will be based on the creation of “regional hubs” within the International Network, sites chosen for their location in an endemic area of tropical and infectious diseases, their ability to develop bioinformatics platforms necessary for the exploitation of sequencing data, and their willingness to play a regional role in the implementation of projects and the training of the relevant human resources.

Our ambition in translational research: improved resources and coordination to accelerate bilateral exchange between research and medicine

The Institut Pasteur wishes to significantly improve the translational dimension of its research activities; to both inspire fundamental research projects on the basis of clinical observation and accelerate the implementation of the scientific advances of our researchers for patient benefit. For this, the interaction between researchers and clinicians will be strengthened, and an innovative horizontal coordination deployed by the new Center for Biomedical and Translational Science.

COORDINATION WITHIN THE NEW CENTER FOR BIOMEDICAL AND TRANSLATIONAL SCIENCE

The Center for Biomedical and Translational Science will consolidate clinical research management activities and ensure the development of this research through advanced technology and technical coordination with academic hospital staff and industry partners. Pro-actively, the center will regularly identify and mobilize teams or individuals in each of the Pasteurian departments or research units. It will provide a point of contact responsible for validating all research projects relative to translational medicine so as to become a platform of ideas and scientific exchange, including the organisation of seminars and symposia. The creation of trans-departmental research seminars co-piloted and co-sponsored by the center will be part of the consolidation process. Having a single contact available for

researchers will facilitate project management, coordinating and simplifying access to the various experts, accelerating communication and improving legal and regulatory certainty.

IMPROVE THE EFFECTIVENESS OF CLINICAL RESEARCH AND THE INSTITUTE'S MEDICALISATION

An ambitious translational research plan for the Institute necessitates the rapid implementation of targeted measures that will strengthen our clinical research and improve our medical uses. We will emphasise mobility and the inclusion of physicians within the Institut Pasteur. The number of positions for residents has already been increased: we plan to maintain the pace of 10 new positions opened annually, opening up these positions beyond Assistance Publique – Hôpitaux de Paris (AP-HP, Public Hospitals of Paris). We plan to open new positions for clinical research associates. “Interface contracts”, allowing physicians, veterinarians or pharmacists at later steps of their career tracks to come and train within fundamental research units, will be set up: we aim to establish 10 “interface” contracts annually between now and 2015. Joint research units will be created, merging the efforts of research units at Pasteur with those of clinical departments within hospitals. Besides, a MD-PhD program will be established in partnership with leading French and international universities. Finally, we plan to strengthen hospital partnerships, particularly with an “affiliated hospital” partnership with Necker Enfants Malades and Cochin (Paris V University) Hospital, a network of teams within hospitals in France and abroad, and a reinforcement of links between the Institut Pasteur and clinical research networks.

OBJECTIVES

- **Establish the Institut at the forefront** of National Reference Centers (NRC) by adopting advanced technologies for diagnosis in microbiology
- Place the biomedical and translational research at the heart of the Institut and the International Network's project via the **Center for Biomedical and Translational Science**
- **Strengthen** the Institute's ability to host and train physicians, pharmacists and veterinarians (30 additional posts by 2018)
- **Utilise the latest technological revolutions** in the study of 'Omics' and train physicians for jobs generated as a result of these new technologies
- **Develop broad federating projects**, building on the creation of «regional hubs» within the Center for Global Health Research and Education and the Institut Pasteur International Network



●● THE INSTITUT PASTEUR AND THE NATIONAL AND EUROPEAN RESEARCH STRATEGY

AN INSTITUTE AT THE HEART OF THE FRENCH AND EUROPEAN RESEARCH ECOSYSTEMS

The Institut Pasteur although based in France, is a European and International Institute that aims to further its partnerships and integration in France and in Europe; a strategy in line with the French national and the European scientific research strategies. From Paris, throughout Europe via national bodies and the Ile-de-France region, the Institut Pasteur is part of a dynamic, complementary research ecosystem, in which it has to be fully involved.

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Institut Pasteur

REINFORCING OUR PRESENCE IN NATIONAL AND EUROPEAN STRATEGIES.

40 %
of permanent researchers
come from external
research organisations,
notably Inserm, CNRS and
universities

3 Laboratories of
Excellence (LABEX)
coordinated by Pasteur

Participation in **69**
European collaborative
projects

31 European research
council grants

National and European
research strategy, where we
stand today: increasingly
dynamic national and
European partnerships

**THE INSTITUT PASTEUR AS PART
OF THE FRENCH INSTITUTIONAL
AND ACADEMIC LANDSCAPE:
A NETWORK OF COOPERATION
AT THE SERVICE OF EXCELLENCE
IN RESEARCH AND EDUCATION,
WHICH NEEDS TO BE FURTHER
STRENGTHENED IN CERTAIN AREAS.**

The Institut Pasteur maintains close relationships with public research organisations, notably the INSERM (National Institute of Health and Medical Research), the CNRS (National Center for Scientific Research) and the Universities. These partnerships allow scientists from these institutions to be welcomed into the Institut Pasteur. By 30 April 2014, 40% of permanent researchers at the Institut Pasteur came from an external research body, mainly Inserm and CNRS. In addition, close partnerships with the universities Paris-Descartes, Pierre and Marie Curie, Paris-Diderot and Paris Sud allow the research units at the Institut

Pasteur to train Master 2's and PhD students from these universities. Thus, research units of the Institut Pasteur are affiliated with a graduate school as a host team. The Institut Pasteur also employs several teacher-researchers seconded from these universities who fully contribute to the scientific excellence of the Institut Pasteur. The Institut Pasteur is also extremely present with regards to funding agencies and is effective when responding to tenders funded by the National Research Agency. The Institut Pasteur has been designated by the French government to lead three Laboratories of Excellence (LABEX), demonstrating its ability to deliver ambitious and well-structured research projects. The Institut Pasteur despite its strong presence, however, falls short in terms of its representation within the Alliance for Health and Life Sciences (AVIESAN), a scientific coordinating body bringing together French players in these areas of research. Therefore, despite its prominence in these areas on the French research landscape, the Institut Pasteur does not preside over any thematic multi-organisational body (ITMO), whose role is to engage in facilitating strategic thinking around a specific scientific theme.





ACTIVE ENGAGEMENT WITH EUROPEAN PARTNERS

The Institut Pasteur also plays an extremely active role in the construction of a European Research area through its participation in many ambitious European projects. It is involved in 69 European collaborative projects (tenders, coordination, infrastructures, etc.), mainly as part of the Seventh European Union Framework Program for Research and Technological development. The Institut Pasteur is appreciative of the key role played by the European Research Council (ERC) to this end, in its funding of research excellence projects. Scientists working at the Institut Pasteur have been awarded 31 ERC grants since 2007, over a quarter of the life science scholarships awarded to France, with a remarkable success rate (more than 60 % for Starting Grants). The Institut Pasteur also contributes to the construction of pan-European research infrastructures, for example through its leading role in the MIRRI project (Infrastructure of Research into Microbial Resources). European funding accounted for 5% of the Institut Pasteur's budget in 2013.

Our ambition: A stronger presence in national and European research strategies

A CONSOLIDATED ROLE WITH OUR FRENCH PARTNERS

The Institut Pasteur intends to strengthen its position on the French research landscape. To do this, we intend to increase the presence of Institut Pasteur representatives within the national coordination. Thus, partnerships with Inserm, CNRS and universities lead to close discussion with representatives from these organisations. Regular meetings will be organised to exchange and ensure consistency across the major French research organisations in terms of their strategic directions. The Institut Pasteur also plans to partner with several communautés d'universités et d'établissements (University alliances) and associations, under development in the Ile-de-France region, but also further afield, allowing for a better exchange of ideas whilst retaining the essential autonomy of our own organisation. The University alliances Sorbonne Paris Cité,

PLAY A PRO-ACTIVE ROLE IN THE DEVELOPMENT OF EUROPEAN RESEARCH AND INNOVATION POLICIES.



Sorbonne University and Paris-Saclay are targeted priorities for these partnerships, institutions with whom the Institut Pasteur intends to foster closer ties.

PRO-ACTIVE MONITORING OF FRENCH AND EUROPEAN FUNDING OPPORTUNITIES, A PRIORITY FOR THE GRANT OFFICE

The Institut Pasteur aims to be more responsive and more effective vis à vis opportunities for French and European research programs and funding with a better use of its strategic monitoring and business intelligence. In addition the Institut Pasteur will define a full strategy regarding calls for tenders, based in part on improved internal coordination, and in part on a strategy of

reinforced partnerships. Tenders from the National Research Agency are a major source of funding for the Institut Pasteur. This commitment to greater responsiveness and efficiency also applies to European calls for tenders. The increase in budget made available to support research and innovation from the 7th Framework Program, and its successor “Horizon 2020”, is proof of the continued support to research by European authorities. This important opportunity is one the Institut Pasteur plans to seize with a holistic approach that takes into account all funding options in the light of the major health challenges of today. The Institut Pasteur also intends to fully exploit all EU funding programs such as the Structural

Funds, the DG EuropeAid programs or the Public Health program of the Health and Consumer Protection in the European Commission (DG SANCO).

ACTIVELY BECOME PART OF THE MAJOR EUROPEAN RESEARCH PROJECTS

As part of the Grant Office, the European unit of the Institut Pasteur will contribute to strengthening the role and visibility of the Institute within the European Research Area. The unit will play a pro-active role in the development of European research and innovation policies, as well as significant European research projects.

OBJECTIVES

- **Reinforce the representation of the Institut Pasteur** within national and European research alliances
- **Implement partnerships** between the Institut Pasteur and Communautés d’universités et d’établissements (University alliances)
- **Strengthen the results** of the Institut Pasteur in European tenders, in particular the ERC



TECHNOLOGY TRANSFER AND INDUSTRIAL PARTNERSHIPS

TO GENERATE INCOME AND SHARE THE FRUITS OF PASTEURIAN RESEARCH WORLDWIDE

The valorisation of scientific research in connection with the international academic and industrial communities, has always been part of the vocation of the Institut Pasteur. It is also a critical element of its future: academic and industrial partnerships can provide patients with the benefit of discoveries made on campus, represent essential self-generating resource for the Institute, and are also a means to finance ever more penetrating research to the benefit of all. Even if the Institut Pasteur has proven to be competitive in terms of valorising its work, compared to international benchmarks, our intention is to build further on this solid base.

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Institut Pasteur

A CRUCIAL MEANS TO FINANCE EVER MORE INNOVATIVE RESEARCH FOR THE BENEFIT OF ALL.

The Institut Pasteur, a strong player in terms of valorisation

19% of the Pasteurian budget, namely **€55** million, from technological transfers, industrial partnerships and industrial contributions

A portfolio of more than **300** patents families

Technology transfer and industrial partnerships, where we stand today: dynamic valorisation of Pasteurian research, still with room for improvement

The commercialisation of research is a virtuous circle both generating concrete applications to human health and opening up the possibility of new research projects. The Institut Pasteur is today effective in terms of valorisation but has many assets to take this further.

THE VALORISATION OF RESEARCH AT THE INSTITUT PASTEUR: A VIRTUOUS CIRCLE WITH VALUABLE ASSETS

The protection and valorisation of research at the Institut Pasteur is a key strategic subject, both as a generator of its own resources and a motor to finance new projects. Dialogue with the academic and industrial worlds is carried out by the Research Applications and Industrial Partnerships Department of the Institut

Pasteur in close collaboration with the Committee of Valorisation and researchers. It is built on a series of constructive tools: invention disclosure to identify innovation, intellectual property protection of inventive research activities including patents, granting of licenses that generate fees, research contracts, technology transferring agreements to industry, valorisation of trademark license, consulting services or support to the creation of innovative start-ups.

PASTEURIAN VALORISATION AMONGST THE BEST IN THE WORLD

In recent years the dialogue between researchers at the Institut Pasteur and their academic and industrial partners has intensified. The valorisation of research projects today represents 17% of the Institut Pasteur's revenue, a total of €49.1 million. Nearly € 11 million come from the exploitation of Sanofi-Pasteur brand; € 25 million from licensing revenues and € 10 million from industrial contracts activities, including the work of Carnot Institutes dedicated to research partnerships and





common projects between research institutions and businesses. In addition are targeted research projects funded by industry which represent nearly € 6 million, bringing the total industrial contributions to about € 55 million (19% of the Institut Pasteur's revenue). Regarding patents, our portfolio is based primarily on diagnosis. In total, this revenue stream as a percentage of the research costs places the Institut Pasteur among the top research institutes in the world in terms of valorisation.

ROOM TO GO FURTHER IN ORDER TO MAINTAIN OUR LEAD IN INNOVATION

Valorisation at the Institut Pasteur is satisfactory but there is still room to improve. The current dynamism of other international research and teaching institutions as well as the slight decline in the share of revenue from valorisation in our budget only encourage a redoubling of future efforts. Our patent portfolio structure is based for 80% on diagnosis and brings considerable success (80% of this diagnosis

activity comes from our HIV patents) but over time this needs to be both further diversified and consolidated. The 43% decline in the number of Institut Pasteur invention disclosures between 2007 and 2012 should also provoke a concerted response: 56% of units filed no invention disclosures in the last three years. The number of priority patent requests has also declined, in part due to a more selective patenting policy from the Institut Pasteur. Nevertheless, the current Pasteurian ratio of two invention disclosures for one patent filing meets with international standards.

Our ambition: intensify research valorisation to serve innovation, with inventive tools and incentives

To increase innovation capacities within our teams and the possibility to apply our research, we will focus on the motivation and commitment of our researchers, as well as the improvement of coordination in order to best support dialogue with our partners.

STRENGTHENING INNOVATION, VIA GREATER PROXIMITY WITH OUR RESEARCHERS

The boosting of invention disclosures and the diversification of our patents portfolio are important priorities as we move towards more efficient and creative research. The involvement of our researchers in this approach to valorising innovation is essential. The Institut Pasteur is currently developing a process to identify inventions and encourage valorisation on the basis of a sustained dialogue with the whole research community, including post-doctorates. The Institut Pasteur also supports the creation of start-ups, directly and indirectly, via specific agreements with investment funds. "Pasteur Innovation" projects will also be strengthened: three additional projects will be launched each year to nourish the creative impetus of our teams. Technology transfer will also be incorporated into the evaluation of our researchers, and a more competitive package for inventors will be implemented.



RENOVATED TOOLS AND STRUCTURES TO SUPPORT INNOVATION AND DIALOGUE WITH OUR PARTNERS

To support our valorisation strategy, DARRI will be reinforced by new recruits with highly valuable industrial expertise. It will be restructured to offer researchers more up front and motivational support, bringing, throughout the project, expertise in business development and legal matters. Dedicated expertise in transfer and valorisation will also be expanded internationally through strategic

recruitment and with the scheduled opening of technology transfer centers in the United States and China. Enhanced efficiency will also take place at the Carnot Institutes and the Technological Research Institute (IRT) BIOASTER Independent Institute for Technological Research, dedicated to infectious diseases and microbiology and conducting R&D activities in the interdisciplinary interface between fundamental research and industrialisation. The use of the Pasteurian biological resources and collections will be another essential

leverage for increased valorisation: the construction of an international network of biological resources regrouping the Pasteur Institutes of our International Network will better exploit this potential. Finally, our valorisation policy is part of an overall vision coordinated by the Grant Office. The Grant Office will incorporate teams working on research contracts, and guarantee the expression of the Pasteurian science policy aligned with our ambitions to attract new and dynamic resources across our International Network.

OBJECTIVES

- **Improve incentives for scientists** to further innovate and further develop technological transfers
- **Reinforce the rights** of inventors regarding their work
- **Evaluate researchers more with regards** to their propensity to innovate
- **Support the creation of start-ups** by a more entrepreneurially-focused Campus
- **Double the number of «Pasteur Innovation» projects**
- **Offer better expert support to researchers**, including in «business development» and legal affairs
- **Open technology transfer poles** in the United States and China



AN AMBITIOUS CONSTRUCTION PROJECT

CREATING A RESEARCH AND EDUCATION INFRASTRUCTURE WORTHY OF A WORLD CLASS CAMPUS, WITH INCREASED TRANSVERSALITY

The Institut Pasteur is an International Institute anchored in France: its Parisian headquarters, concentrating research, education, governance and policy coordination, are an exceptional blend of scientific heritage mixed with a commitment to remain at the avant-garde of science and technology. In line with its strategic priorities, the Institut Pasteur is engaged in an ambitious program of renovation of its infrastructure. The blueprint we have defined for 2026 aims to reflect in its research and teaching spaces the spirit of our scientific vision: with a free flow of energy and talent, a pooling and sharing of resources and skills, and equipment and technology of the highest standard.



Institut Pasteur

AN EXCEPTIONAL SCIENTIFIC LEGACY AND A COMMITMENT TO REMAIN AVANT-GARDE, A CAMPUS AT THE FOREFRONT OF SCIENTIFIC AND TECHNOLOGICAL ADVANCES.

5 hectare campus
in the heart of Paris
48,000 m²
of laboratories

Heavy restrictions
in terms of space and
a major capacity
challenge in terms of
equipment and intake.

Research and education infrastructure, where we stand today: an exceptional Pasteurian heritage, resolutely focused on the future

A STRATEGIC LOCATION, A SINGLE CAMPUS

Pasteurians have a 5-hectare campus in the heart of Paris, housing 39 buildings, 23 of which with a scientific purpose. Many of these are listed as historical monuments. The Institut Pasteur regroups a total of 48,000 m² of laboratories. This unique campus is an important asset in a context of increased international competition.

THE POTENTIAL TO DEVELOP FURTHER IN TERMS OF CAPACITY AND EQUIPMENT

The Parisian campus of the Institut Pasteur must evolve in line with its ambitions as an international Institute of research and education. We therefore need to expand our teaching capacity, improve the conditions to our students and trainees, strengthen the research infrastructure, in particular technology platforms and build new research buildings. We also need to better integrate the Institut Pasteur medical center with the research activity on campus and accompany our research priorities, moving forward in a spirit of exchange and supported by the appropriate infrastructure.

Our ambition: a campus of international stature, accelerator of interdisciplinary exchange at the forefront of technology

The Institut Pasteur has defined ambitious plans for a highly competitive international campus by the year 2026.

AN AMBITIOUS 2026 BLUEPRINT ACKNOWLEDGING THE NEED FOR EXCELLENCE AND TRANSVERSALITY

The blueprint for the Institut Pasteur to optimise its infrastructure for research and

education will be implemented in successive "campus plans", the first from 2014 to 2017. It includes both entirely new constructions, renovation projects of different degrees of ambition, and some repurposing. The plans will respond to several needs in terms of support to research, providing high-tech equipment, all in line with the Pasteurian ambitions and scientific priorities. It will also anchor the campus in a sustainable, environmentally responsible approach. The "Green Campus - Responsible Campus" program, in a spirit of ethics and trust will also make the Institut Pasteur compliant in the context of increasingly stringent regulations. It aims to reduce pollution (greenhouse gas emissions, industrial discharges, noise emissions in particular), but also to optimise resources (diagnosis, recycling), to manage legal risks associated with the Institut Pasteur's activities, to define calls for eco-friendly bids for tender, or to improve eligibility for additional funding from national and European programs. The driving vision of this blueprint remains the imperative to provide our researchers and students conditions, resources and space conducive to an open, collaborative environment that shares its experience and knowledge via the free movement of energy, talent and projects. The Institut Pasteur wishes to cultivate a «Campus spirit » that irrigates proximity favourable to high level research, while strengthening its openness vis-à-vis its International Network and its industrial and research partners whether in France or abroad.

ENHANCED CAPACITY FOR TEACHING AND WELCOMING STUDENTS AND TRAINEES

The first step of the Institut Pasteur campus plan, for 2017, envisages the establishment of an international teaching and training Center, in order to improve teaching capacity and conditions. Set down in the blueprint are a further 1400 m² attributed to teaching activities (an increase of 82%); the library will also undergo a redesign. It will reflect the Institut Pasteur's ambitions in education and training: developing partnerships with





universities, reinforcing links with the International Network, creating outstanding courses on emerging subjects of interest, or remain open to new technologies. The quality of and capacity to welcome students and trainees will be improved thanks to a strong partnership with the Cité Internationale Universitaire de Paris, in which the Institute will host scientists at the “Maison Pasteur.”

BUILD AND RENOVATE RESEARCH INFRASTRUCTURE TO REMAIN AT THE CUTTING EDGE

Outlined in this plan are several projects for significant upgrading work in terms of space and state of the art research equipment, with the first phase to take place between 2014 and 2017. A keystone of this plan will be the building of the future “Omic Center”

due to be completed by 2017. The Omics Center, spread over 1,900 m² will be able to accommodate research activities in the fields of bioinformatics, genomics, proteomics and metabolomics. It will welcome new teams in the field of integrative and quantitative biology. We have also planned for the building of a new research building on the current site of the Institut Pasteur medical center. This new space will include over 1200m² of laboratory space and will host the medical center, on 400 m² as well as two basement levels. The Titan Project, a new construction of 340 m², will house an FEI-TITAN high resolution microscope, on an external protected platform. This high-tech building will treat vibration and electromagnetic stresses. A new Insectarium attached to an imaging platform of a further 1,000 m² will

house all the breeding insectaries and the related research support and infrastructure, as well as an imaging-microscopy platform that will open up new themes of research. Two buildings are also being renovated for research and support activities. Finally, in the spirit of proximity and exchange inherent to the Campus, the Communication Center, South Campus will provide 500 m² of convivial space open to all the Pasteurian teams. The subsequent phases of this ambitious plan, still on the drawing board, will provide for renovation of the historic campus buildings, in order to adapt to modern science and its related tertiary support functions. The Institut Pasteur will continue an ambitious research infrastructure policy, at the service of all Pasteurians.

OBJECTIVES

- **Create an international education and training Center**
- **Build a «Omic Center»**
- **Construct a building** to house the necessary equipment for the study of tomorrow’s electron microscopy
- **Give more space** to informal areas of exchange and conviviality



FUNDRAISING AND LEGACIES

A COLLECTIVE ENGAGEMENT IN KNOWLEDGE

The generosity of donors and testators who have supported the Institut Pasteur as a private foundation of public utility since its inception in 1887 plays an essential part in its development and the fulfilment of its role. The generosity of the public, key in funding new areas of research, permits structural investment and the provision of state of the art equipment for advanced scholarship and research. Fundraising at the Institut Pasteur is witnessing a very positive trend and has evolved towards greater efficiency over recent years. In order to best serve its strategic ambitions, the Institut Pasteur can further improve this model by exploring new revenue opportunities, targeting new and international donors.

AN ESSENTIAL RESOURCE FOR THE DEVELOPMENT AND IMPLEMENTATION OF THE INSTITUT PASTEUR'S MISSION.

A major contributor to the Institut Pasteur budget: public generosity and revenues from assets represent **28%** of current Institute revenues.

A strong increase in donations nationally: nearly **€ 25** million in 2013 (including robust corporate philanthropy: € 8 million in 2013, vs € 4 million in 2004)

A very strong contribution of legacies: **€ 30** million in 2013

Still low activity abroad.

Fundraising and legacies, where we stand today: a positive dynamic needing further support to keep up with the best international fundraising institutions

Donations and bequests are on a positive trend and increasingly efficient at the Institut Pasteur. In a context of ever increasing pressure on public funding, and mindful of the need to develop the best ways to serve our strategic ambitions, the Institut Pasteur aims to improve further in this area by exploring new, in particular international, opportunities.

FUNDRAISING, LEGACIES AND VISIBILITY, ON AN UPWARD TREND

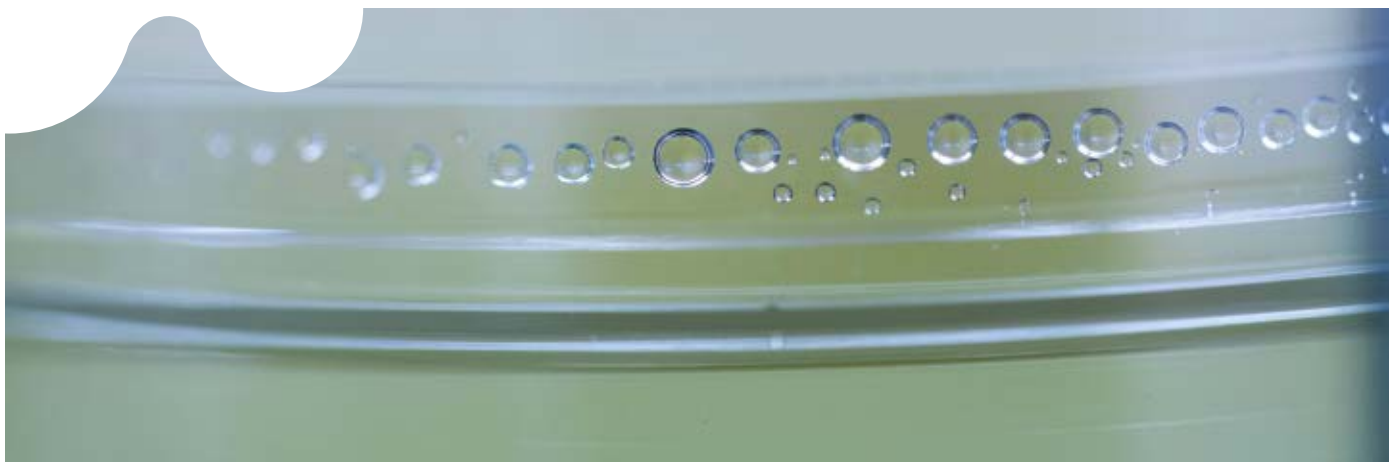
Despite a sluggish economy, impacting negatively on donations for many research organisations, the Institut Pasteur managed to strongly increase the number of donors and testators: reaching a x6 increase in revenue collection, from € 4 million in 2004 to nearly € 25 million in 2013. Bequests accounted for more than € 30 million in 2013. With the help of the Department of Communication and Fundraising, the Institut Pasteur has boosted its fundraising and significantly increased its visibility among donors: in 2006, 11% of French people knew of the Institut Pasteur as a foundation empowered to collect donations, vs 44% today.

AN IMPROVED STRATEGY, TARGETING WIDELY

Many of the donations and bequests to the Institut Pasteur are from a broad base of small donors, and this number is growing (25,000 people in 2006, 200,000 people in 2013, for a total of € 12 million in donations). There was a notable increase with the appearance of "Pasteurdon", an event created in 2007, which raised nearly € 1 million per year. Some donors are able to contribute larger sums (around € 10 000- € 30 000) and totalled € 3 million for 2013; the largest individual donations today are in the region of € 100,000. Corporate philanthropy meanwhile has risen to € 8 million in 2013 vs € 0.5 million in 2006. Major donors and our top 50 corporate sponsors receive tailor made attention. In view of this increase in revenue, the resources allocated to collecting funds have only slightly increased between 2006 and 2013 and therefore the dividend yield of fundraising and bequests has significantly increased. From € 2 for every € 1 invested in 2006, we now are able to collect € 4.

INCREASED PRESSURE ON FUNDRAISING IN THE CONTEXT OF REDUCED PUBLIC SPENDING

The Institut Pasteur has witnessed a steady reduction in its share of public subsidies, which went from 40% in 1980 to 22% in 2013. In this context, increasing our private resources is more necessary than ever. The





Institut Pasteur has scientific assets and human resources to stand tall with the best international institutions.

INCREASED FOCUS ON MAJOR DONORS AND INTERNATIONAL FUNDING TO IMPROVE DIVERSIFICATION

The importance of individual and small donors in collecting donations and bequests from the Institut Pasteur is an integral part of our strategy and the Pasteurian vision, shaped by the common good for the benefit of civil society. Whilst respecting this aspect of our heritage the Institut Pasteur may increasingly target big donors. The Institut Pasteur also has potential to grow its international base of donors. Already two “external” foundations exist in Switzerland and the United States, boosting international donations; this international focus will be amplified.

Our ambition, to sustain generosity whilst diversifying our resources

The strategy of the Institut Pasteur in donations and bequests is ambitious but realistic: to achieve it we have set strong priorities.

SOLIDIFY DONATIONS FROM SMALL, MEDIUM AND LARGE DONORS, WITH HIGH VISIBILITY AND AN OPTIMISED CUSTOMISATION ON RETURNS

For ever more powerful fundraising and legacies put to the service of research, we intend to target small and medium donors on the one hand, and on the other, high net-worth donors. In order to improve the notoriety of the Institut Pasteur with the general public, we aim to boost the appeal of the Pasteur brand, making it the preferred beneficiary of charitable support,

SMALL DONORS AND INDIVIDUALS, AN INTEGRAL PART OF OUR STRATEGY AND OF THE PASTEURIAN VISION GUIDED BY THE COMMON GOOD AND CIVIL SOCIETY.



from participation in major sporting events to crowd funding operations. For major donors, we will focus on enhancing partnerships, improving communication and an increasingly tailored return for their donations. Overall, we will be reinforcing our funding and legacies strategy.

DIVERSIFY RESOURCES, TARGETING NEW DONORS AND INVESTING IN ONLINE FUNDRAISING

While preserving and enhancing its base of small donors, the Institut Pasteur intends to diversify its targets for fundraising. It plans to be present in all possible areas for fundraising. Digital has many benefits and our strategy will harness the advantages it brings, particularly crowd funding and

online collection. Online collection currently represents 5% of total Institut Pasteur fund raising: our room for improvement is evident. We are also pursuing the development of direct debit: from 2,000 using direct debits 2006, there are now 20,000 donors, creating a fund totalling € 2 million in 2013, with additionally guaranteed collection. These valuable donations have helped with visibility and their collection, and assured the fundraising objectives of the year.

TARGET INTERNATIONAL DONORS: THE MEANS TO OUR AMBITIOUS GLOBAL VISION

The overall ambition of the Pasteur research calls for mobilisation with an international

stretch. The international component of our strategy for fundraising will be particularly reinforced, especially in North America, China (Hong Kong and mainland China) and Switzerland. Ambitious partnerships will also be introduced in the Middle East. This international expansion will be served by new hires in Paris, China and Switzerland. It will be coordinated by the “Global Development Committee” of the Institut Pasteur, assuring the close alignment of all of our strategic priorities and their key stakeholders whether they be on Campus, across the Institut Pasteur International Network, the Advocacy Group for integration of the Network around scientific projects, or the new Grant office.

OBJECTIVES

- **Significantly develop international fundraising** (North America, China, Switzerland), representing a key leverage to future revenues at the Institut Pasteur
- **Create targeted incentives** for high net-worth donors
- **Enhance the notoriety** of the Institut Pasteur through initiatives targeting small and medium donors
- **Redesign the website** as part of the improved visibility strategy of the Institut Pasteur

