

# 2023 REPORT



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Addressing global health challenges  
through science



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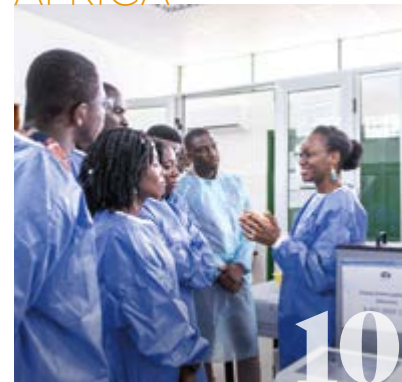


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## EDITORIAL



### Strengthening Collaborations for a Healthier Future

This past year there were more climate-related health events, health crises and increasing conflicts globally combined with increasing scientific skepticism. Working together, putting science first, is paramount to address global challenges. The Pasteur Network continues to solidify its commitment to creating a strong and inclusive foundation for collaboration. Building on the progress of the previous year, we have continued to enhance and prioritize regional representation. These changes aim to amplify the voices of members, a key need highlighted in this year's organizational review.

We are committed to working together as a global alliance – a cohesive and responsive unit that integrates regional perspectives with a focus on collective action.

In this 2023 edition, we are proud to emphasize our dedication to the shared Pasteur Network strategic pillars that guide our actions:

- Epidemic Preparedness Intelligence (with a focus on climate-sensitive diseases)
- Research, Development, and Innovation
- Knowledge Communities
- Good Governance and Equity

As we transition into 2024, we remain steadfast in our mission to make a global impact in science, public health, and training, while continuously adapting to meet contemporary challenges and opportunities.

Together, let's build on the momentum of 2023 and continue addressing global health challenges with renewed dedication and collaboration. With our shared vision and values guiding us, I am confident we will achieve even greater successes in the year ahead.

Sincerely,

**Rebecca F. Grais**

Executive Director - Pasteur Network



**Amadou Alpha Sall**  
President of the Pasteur Network  
General Administrator,  
Institut Pasteur de Dakar

This year has been transformative for the Pasteur Network. Our dedicated members celebrated significant anniversaries: 50 years of the Institut Pasteur de Côte d'Ivoire, 70 years of the Institut Pasteur du Cambodge, and an impressive 130 years of the Institut Pasteur de Tunis, where we convened for the Pasteur Network Annual Meeting. Additionally, we welcomed the Institut Pasteur de São Paulo as an active member of our network, reflecting its remarkable evolution.

Our Board has been invigorated by the addition of two distinguished co-opted members: Isabella Oyier from KEMRI-Wellcome Trust and Linda Venczel from PATH. Their invaluable expertise will be crucial in guiding our future decisions.

The Pasteur Network continues to expand its global partnerships, including collaborations with prominent funders Wellcome Trust, The Rockefeller Foundation, the Institute of Philanthropy - HKJC. Our participation in global health initiatives, such as the Grand Challenges event in October in Dakar, underscores our commitment to addressing pressing issues like AI solutions for community health and strategies to mitigate the impacts of climate change.

Together, we are demonstrating our pivotal role on the world stage, dedicated to advancing global health and well-being.

**“The Pasteur Network continues to expand its global partnerships”**

I am honored to join the Pasteur Network as its Vice President of the Pasteur Network and President of the Institut Pasteur. Addressing the climate crisis and its impacts on human health is one of our most pressing challenges. I am deeply impressed by the initiatives led by my predecessor, Stewart Cole, in exploring opportunities in this field alongside the Pasteur Network Board, in addition to other critical strategic areas. My heartfelt gratitude goes out to all our members whose unwavering commitment is crucial in tackling global health issues.

Collaboration is essential, both within our institutes and with our partners, to fulfill our mission not just as individual entities but collectively on the international stage. We are more than ever driven by our commitment to equitable partnerships and the collective interest, consistently striving to share knowledge and resources while respecting the autonomy of each member.

Working as equals with our global partners is a priority for me. Our diversity is our strength, and it fuels our collective progress. As I continue to learn about the incredible work being done and eagerly look forward to meeting all of you, I invite all members to embrace and demonstrate their sense of belonging to the Pasteur Network.

**“Collaboration is essential, both within our institutes and with our partners, to fulfill our mission”**



**Yasmine Belkaid**  
Vice President of the Pasteur Network  
President of the Institut Pasteur

## Today's global health challenges demand open collaboration across a robust and resilient network grounded in science.

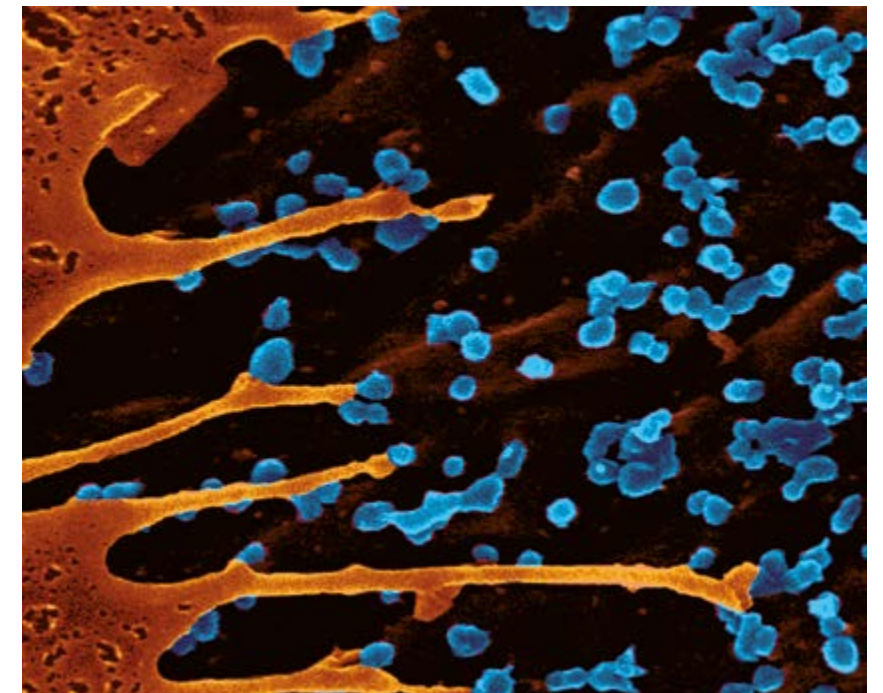
**In 2023, the Pasteur Network renewed its commitment to acting not just as a global entity, but as a cohesive and responsive unit that elevates regional perspectives with an emphasis on collective action.**

### A strong vision and values

The Pasteur Network is recognized as a WHO non-state actor, and members of the network are frequently embedded into local Ministries of Health. The PN sustains a global infrastructure encompassing 50+ national and regional reference laboratories, which includes multiple Biosafety Level 3 Laboratories, and 17 WHO Collaborating Centres. The Pasteur Network's work is guided by four strategic pillars (see pages 8-9) and a strong vision reinvigorating a global network of local and regional actors to foster collective action and resource / knowledge sharing on pressing health and scientific challenges to guide policy. This vision is fortified by shared values including Equitable partnership, collective interest, Knowledge & Resource sharing, Member autonomy.

### Several initiatives focused on improving governance

In 2023, the Pasteur Network focused on strengthening collaborative governance and enhancing regional representation. This structural adjustment amplified member institutes' voices, a key outcome of the year's organizational review. The review led to better regional and thematic coordination, improved financial planning, and key governance enhancements, notably establishing clear terms of reference



for the Board and welcoming two new co-opted members.

### Strengthening the Network's global voice, collaboration, and partnerships

The Pasteur Network has been actively nurturing potential partnerships with a broad spectrum of global health stakeholders to further its mission and contribute meaningfully to the global health discourse. For example, the Network joined the Grand Challenges initiative of the Bill and Melinda Gates Foundation and has also been increasing collaboration with the Rockefeller Foundation, the HKJC Institute of Philanthropy (see page 39) and reinvigorating the PNAM with the support of Wellcome (see page 52).

### Board members



### Stay connected!

**Official website | Pasteur Network**  
<https://pasteur-network.org/>

**Monthly Newsletter**  
<https://pasteur-network.org/en/media/pasteur-network-newsletter/>

**Pasteur Network LinkedIn page**  
<https://www.linkedin.com/company/pasteur-network/>

## GLOBAL KEY FIGURES AND TIMELINE

The Pasteur Network is an alliance of 30+ institutes with a crucial role in tackling global health challenges through science, innovation and public health. Its distinctive strength lies in the diversity and extensive geographic reach, spanning 25 countries across 5 continents, fostering a dynamic community of knowledge and expertise.



## GLOBAL KEY FIGURES AND TIMELINE



4

regions  
Africa, Americas, Asia-Pacific  
and Euro-Mediterranean



25

countries



More than  
**20,000**  
people



17

WHO Collaborating Centres,  
more than 50 national and  
regional reference centers



5,000

Cumulated scientific papers  
published with members of  
the Pasteur Network in 2023



5

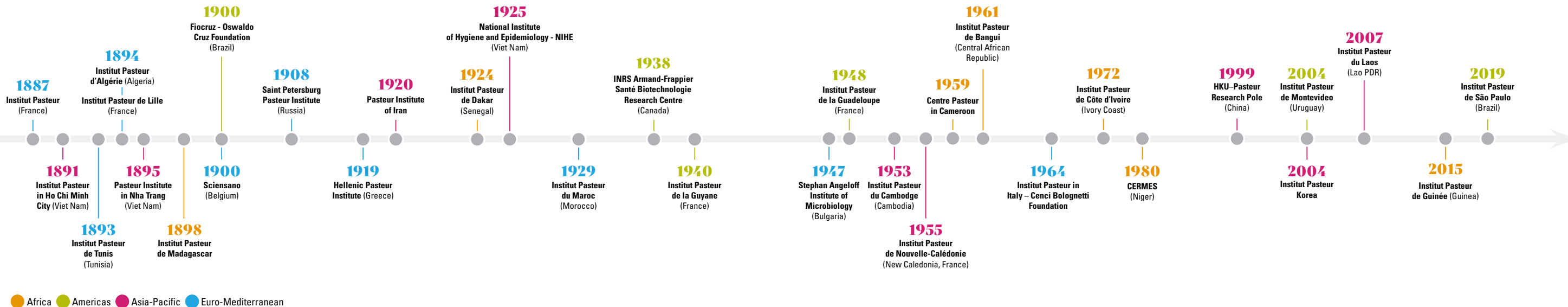
courses selected  
for funding



3 PhD

and 8 Post-Doc  
grants allocated

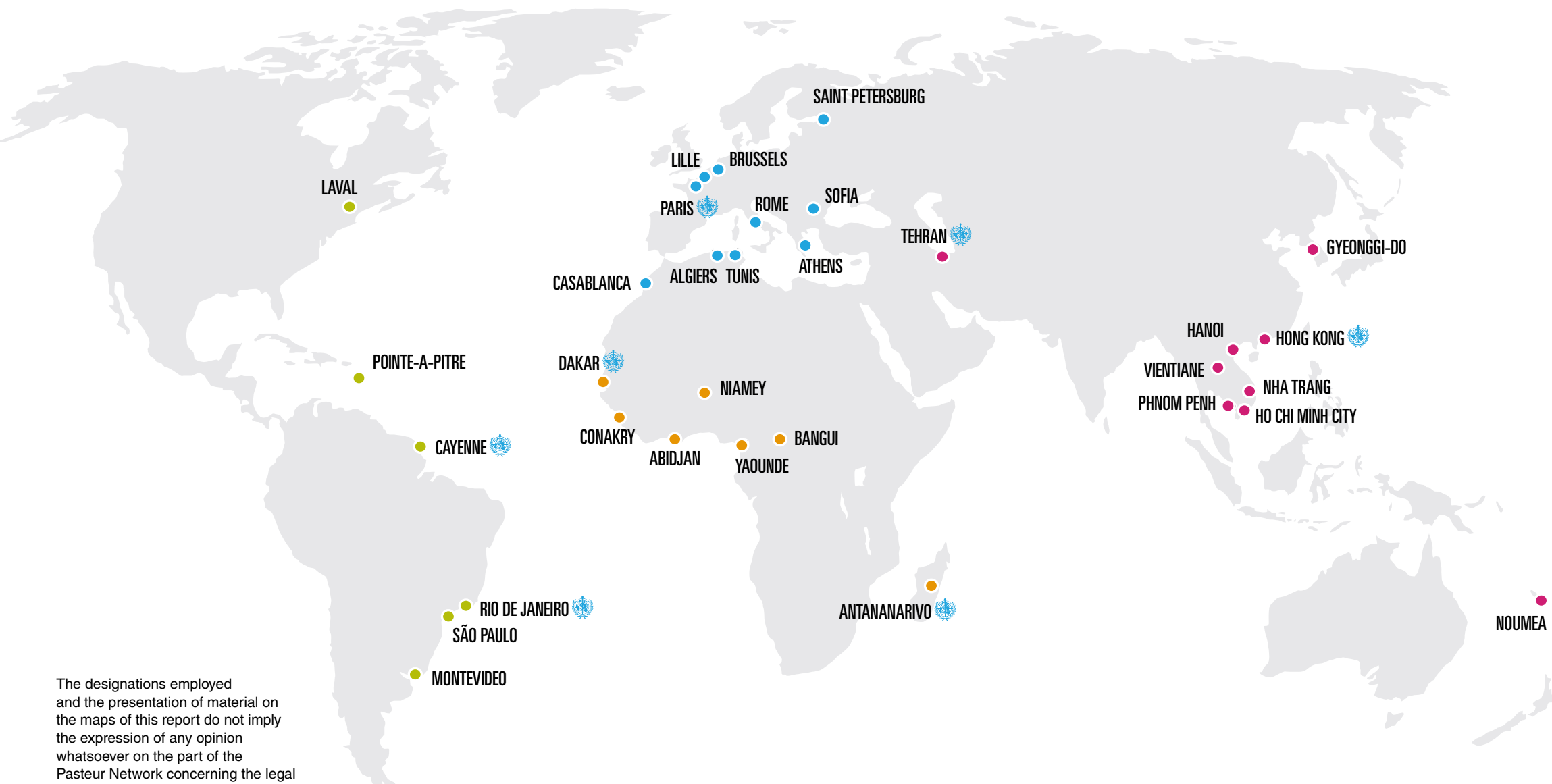
### Chronology of the establishment of Pasteur Network members with their current names



## MAP OF THE PASTEUR NETWORK

### Our members worldwide

Located across diverse ecosystems, the Network is located on all five continents in four regions: Africa, Americas, Asia-Pacific, Euro-Mediterranean. This exceptional **diversity** makes the Pasteur Network **a unique global actor in public health, science, innovation, and education**, especially in the fight against climate-sensitive infectious diseases.



The designations employed and the presentation of material on the maps of this report do not imply the expression of any opinion whatsoever on the part of the Pasteur Network concerning the legal status of any country, territory, city or any area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

#### AMERICAS

- Laval, Canada**  
INRS Armand-Frappier Santé Biotechnologie Research Centre  
<https://inrs.ca/en/inrs/research-centres/armand-frappier-sante-biotechnologie-research-centre/>
- Pointe-à-Pitre, France (Guadeloupe)**  
Institut Pasteur de la Guadeloupe  
[web.pasteur-guadeloupe.fr/](http://web.pasteur-guadeloupe.fr/)
- Cayenne, France (French Guiana)**  
Institut Pasteur de la Guyane  
[pasteur-cayenne.fr/](http://pasteur-cayenne.fr/)
- Montevideo, Uruguay**  
Institut Pasteur de Montevideo  
[pasteur.uy/en/](http://pasteur.uy/en/)
- Rio de Janeiro, Brazil**  
Oswaldo Cruz Foundation (Fiocruz)  
[portal.fiocruz.br/en](http://portal.fiocruz.br/en)
- São Paulo, Brazil**  
Institut Pasteur de São Paulo  
<https://www.pasteur-sp.org.br/en/>

#### AFRICA

- Niamey, Niger**  
CERMES Niger  
<https://cermes.net/le-cermes/>
- Bangui, Central African Republic**  
Institut Pasteur de Bangui  
<https://www.linkedin.com/company/institut-pasteur-bangui/>
- Abidjan, Ivory Coast**  
Institut Pasteur de Côte d'Ivoire  
<http://www.pasteur.ci/>
- Dakar, Senegal**  
Institut Pasteur de Dakar  
<https://www.pasteur.sn/en>
- Conakry, Guinea**  
Institut Pasteur de Guinée  
<https://www.linkedin.com/company/institut-pasteur-de-guinee-C3%A9/>
- Antananarivo, Madagascar**  
Institut Pasteur de Madagascar  
<https://www.pasteur.mg/>
- Yaounde, Cameroon**  
Centre Pasteur in Cameroon  
<https://www.pasteur-yaounde.org/index.php/fr/>

#### EURO-MEDITERRANEAN

- Athens, Greece**  
Hellenic Pasteur Institute  
<https://www.pasteur.gr/en/>
- Paris, France**  
Institut Pasteur  
<https://www.pasteur.fr/en>
- Algiers, Algeria**  
Institut Pasteur d'Algérie  
<https://pasteur.dz/fr/>
- Lille, France**  
Institut Pasteur de Lille  
<https://pasteur-lille.fr/en/>
- Tunis, Tunisia**  
Institut Pasteur de Tunis  
<http://www.pasteur.tn/>
- Casablanca, Morocco**  
Institut Pasteur du Maroc  
<http://www.pasteur.ma/>
- Rome, Italy**  
Institut Pasteur in Italy – Cenci Bolognetti Foundation  
<https://www.istitutopasteuritalia.it/>
- Saint Petersburg, Russia**  
Saint Petersburg Pasteur Institute  
<https://www.pasteurorg.ru/>
- Brussels, Belgium**  
Sciensano  
<https://www.sciensano.be/en>
- Sofia, Bulgaria**  
Stephan Angeloff Institute of Microbiology  
<https://microbio.bas.bg/en/>

#### ASIA-PACIFIC

- Hong Kong, China**  
HKU-Pasteur Research Pole  
<https://www.hkupasteur.hku.hk/>
- Nouméa, France (New Caledonia)**  
Institut Pasteur de Nouvelle-Calédonie  
<https://www.institutpasteur.nc/>
- Phnom Penh, Cambodia**  
Institut Pasteur du Cambodge  
<https://www.pasteur-kh.org/>
- Vientiane, Lao PDR**  
Institut Pasteur du Laos  
<https://www.pasteur.la/>
- Ho Chi Minh City, Viet Nam**  
Institut Pasteur in Ho Chi Minh City  
<http://www.pasteurhcm.gov.vn/>
- Tehran, Iran**  
Pasteur Institute of Iran  
<https://en.pasteur.ac.ir/>
- Nha Trang, Viet Nam**  
Pasteur Institute in Nha Trang  
<http://pasteur-nhatrang.org.vn/>
- Gyeonggi-do, Republic of Korea**  
Institut Pasteur Korea  
<https://www.ip-korea.org/>
- Hanoi, Viet Nam**  
National Institute of Hygiene and Epidemiology (NIHE)  
<https://nihe.org.vn/en>

**More about our members**  
<https://pasteur-network.org/en/members/>

**Directory**  
<https://pasteur-network.org/en/our-network/>

## Four strategic pillars to guide our actions

The Network has established a Theory of Change with strategic pillars to guide collective actions in science, global health, innovation, and education.



### Epidemic Preparedness and Intelligence, with a focus on climate-sensitive diseases:

Addressing emerging health challenges through surveillance and research, particularly on climate-sensitive diseases.



### Knowledge Communities:

Fostering multidisciplinary collaboration and global knowledge exchange and enhancing expertise to empower the next generation of scientific leaders.



### Research, Development and Innovation:

Advancing scientific understanding and technological innovation in public health and biomedicine.



### Good Governance and Equity:

Establishing governance structures and practices that are both effective and equitable, with a focus on financial fairness and sustainable operations.

### Epidemic Preparedness and Intelligence with a focus on climate-sensitive diseases

- Build the broadest, most highly connected and responsive health surveillance network.
- Develop multi-disciplinary observatories monitoring the health impacts of climate change to anticipate public health challenges and influence public policy.
- Address drug resistance evidence gaps and support public health behavior change programs in vulnerable regions.
- Focus on maternal, newborn and child health and collaborate with local stakeholders to improve programs.

### Research, Development and Innovation

- Accelerate public health outcomes with breakthrough research and innovations on high burden infectious diseases.

- Develop a fund to enable development of the most promising high-burden infectious diseases diagnostics, therapeutics, and vaccines from PN researchers.
- Build a shared infrastructure to increase the accessibility and streamline key research tools and technology platforms across the Network.

### Multi-disciplinary knowledge communities

- Joint PhD programs and Master's programs to develop scientific leaders across Global South countries.
- Develop and empower the next generation of scientific leaders across the globe, focused on the world's most pressing issues.
- Coalesce thematically aligned researchers to transfer knowledge and advance scientific discovery and improve local public health practices.

### Good Governance and Equity

- Implement good governance changes to drive increased partnerships and equitable collaboration and elevate regional voices.
- Evolve the Network through re-envisioned financial mechanisms, sustainable and competitive economics, and equitable resource allocation.

More about the Theory of Change:



## Pasteur Network International Courses



### Knowledge community

Teaching and training are an essential part of the work of Pasteur Network members. The Network's international courses respond to research and public health priorities at the global and regional levels, providing top-level training to scientists at different stages of their scientific careers, and strengthening scientific relationships between scientists within the Network and with other institutions. In 2023, 5 new courses were selected for funding:

Course	Organizer	Place
GIS and e-data	Institut Pasteur d'Algérie	Algiers, Algeria
Proteomics Analysis by Mass Spectrometry	Institut Pasteur de Montevideo	Montevideo, Uruguay
Immunology	Institut Pasteur, Institut Pasteur de Montevideo, Institut Pasteur de Madagascar	Antananarivo, Madagascar
High Content Screening for Therapeutics Discovery and Immunology	Institut Pasteur Korea	Seoul, Republic of Korea
Bioproduction and Tech Transfer for LMIC	Fiocruz	Rio de Janeiro, Brazil



## Training and capacity building for the DURABLE project



### Epidemic Preparedness and Intelligence with a focus on climate-sensitive diseases

The Pasteur Network is involved in the European project DURABLE (Delivering a Unified Research Alliance of Biomedical and public health Laboratories against Epidemics) for the training activities.

DURABLE, coordinated by the Institut Pasteur, is a project funded by HERA with 19 partners and 2 affiliated entities across 15 European countries for pathogen detection, evolutionary analysis, and threat characterization, with a One Health approach to data and intelligence gathering and sharing (see page 45 about the Institut Pasteur). Our team at Pasteur Network is dedicated to the continuous training of DURABLE members and third parties, the expansion of their core capabilities at European and international level, and the provision of surge capacity in times of crisis. We oversee the "Training and capacity building" workpackage to deliver three Project Schools, webinars and comprehensive training materials dedicated to scientists and research managers.

Discover the Pasteur Network Scientific Technological Platforms:





ALL ABOUT THE MEMBERS  
OF THE PASTEUR NETWORK:  
[pasteur-network.org/en/members/](https://pasteur-network.org/en/members/)

# AFRICA

The Pasteur Network in Africa brings together 7 members involved in the surveillance and fight against infectious diseases (Covid-19, Ebola, MPXV) close to outbreak sources. They also work regionally on rabies and plague, and are involved in the issues of production and access to vaccination and diagnosis.

## Board members



**Amadou Alpha Sall**  
Institut Pasteur de Dakar



**Noël Tordo**  
Institut Pasteur de Guinée



**7**

members



**2**

WHO Collaborating Centres

- ▶ Arboviruses and Hemorrhagic Fever Viruses (Institut Pasteur de Dakar)
- ▶ Plague control and research (Institut Pasteur de Madagascar)

## CENTRE PASTEUR IN CAMEROON

### ID CARD



**Year of establishment:** 1959

**Type:** Public Institution

**Address:** BP1274 Yaoundé, 451, Rue 2005, Yaoundé, Cameroon

**Website:** <https://www.pasteur-yaounde.org/index.php/fr/>

**Areas of expertise:**

Bacteriology, Parasitology, Epidemiology, Food, Hygiene and Environment, Immunology, Mycobacteriology, Virology, Entomology, Medical analysis

### JULY 2023

#### Capacity building: genome sequencing of MPXV and poliovirus

Two training courses on sequencing were run at the CPC Genomics Platform (funded by WHO, AFD and the French Cooperation Office at the French Embassy in Cameroon). The first, led by CDC Atlanta, focused on partial sequencing of the monkeypox virus (MPXV) genome using Oxford Nanopore technology. The second, on poliovirus sequencing, was led by WHO in collaboration with Imperial College London. The training boosted CPC's expertise on sequencing, which was previously limited to SARS-CoV-2. It extended diagnostic capabilities beyond MPXV clade identification and improved knowledge of circulating strains. The new technique introduced at CPC will provide information on the genetic diversity and potential origin of the viral strains infecting the population of Cameroon.

<https://bit.ly/3zv7LIG>

The Centre Pasteur in Cameroon contributes to health promotion and disease control through public health, research, the prevention and surveillance of endemic and epidemic diseases and training.

### JUNE 2023

#### Inauguration of the "Rodolphe Mérieux – Joseph Mbede" building for hygiene and environment testing laboratories

The opening of a new building with new equipment strengthens the laboratory's capabilities, especially in water and food testing, with the aim of improving local health and guaranteeing the quality and safety of industrial food products. The inauguration ceremony for the building was attended by Professor Louis Richard Njock, Secretary General at the Ministry of Public Health in Cameroon, Alain Mérieux, President of the Mérieux Foundation, Dr. Mirdad Kazanji, General Director of the Centre Pasteur in Cameroon, the Deputy Chief of Mission of the French Embassy in Cameroon and the



WHO Country Representative. "At a time like this, when Cameroon is facing public health emergencies, this international-standard laboratory is a public health facility that will help improve food safety," explained Prof. Njock. <https://bit.ly/3xUZk93>



### NOVEMBER 2023

#### Award: Dr. Ngu Abanda receives the 2023 Pasteur Network Talent Award

At the Pasteur Network Annual Meeting from November 19 to 21, 2023 in Tunis, Dr. Ngu Abanda from the Centre Pasteur in Cameroon received the 2023 Pasteur Network Talent Award from the President of the Institut Pasteur, Stewart Cole. Talent Awards support career development, encouraging early career scientists to become future leaders in the Pasteur Network.

<https://bit.ly/4cv5VWU>

### DECEMBER 2023

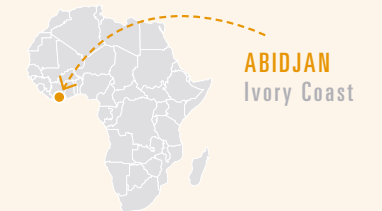
#### International training: two international training courses on tuberculosis and rabies surveillance and control

From December 4 to 9, 2023, the first Tuberculosis Masterclass in French-speaking Africa, supported by L'Initiative (Expertise France), was held at the Pasteur Center in Cameroon. The masterclass provided extensive training to strengthen the capabilities of 30 early career scientists from 16 French-speaking African countries in various fields related to tuberculosis. The same month, from December 11 to 21, 2023, the CPC hosted the 7th international Institut Pasteur course on rabies surveillance and control. The training strengthened the capabilities of 28 participants from six Central African countries in tackling rabies via a One Health approach.

<https://bit.ly/3LaFucZ>

## INSTITUT PASTEUR DE CÔTE D'IVOIRE

### ID CARD



**Year of establishment:** 1972

**Type:** Public Institution

**Address:** 01 BP 490, Abidjan 01, Ivory Coast

**Website:** <https://www.pasteur.ci/index.php>

**Areas of expertise:**

Training, Prevention, Epidemiology, Bacteriology, Biochemistry, Virology, Parasitology, Microbiology, Immunology, Entomology

The Institut Pasteur de Côte d'Ivoire is a national public institution that serve the populations of Côte d'Ivoire and West and Central Africa through expertise and technical support.

### MAY 2 TO 6, 2023

#### 50th anniversary ceremony and celebrations at the Institut Pasteur de Côte d'Ivoire

The event in the Cocody suburb of Abidjan was attended by the Mayor of Cocody Jean-Marc Yace, the representative of the Minister for Higher Education and Scientific Research Professor Arsène Toka Koba, Ambassadors, representatives of state institutions, traditional leaders, the Director of the Institut Pasteur de Côte d'Ivoire Professor Mireille Dosso, and employees from IPCI and from government ministries and partners. The theme was "50 years serving the population: challenges and innovation." A scientific conference, an open day and a sports day were held to mark the occasion. <https://bit.ly/4cNTipz>

### JUNE 2023

#### A coordinated response to antibiotic resistance

On June 20, an emergency meeting was held at the WHO Regional Office in Abidjan to develop an alert, response and coordinated management system for hospital-acquired infections caused by highly resistant pathogens in healthcare establishments. The aim of the Multi-Sectoral Group for a Coordinated Response to Antimicrobial Resistance (GMC-RAM), led by Mireille Dosso, Director of the Institut Pasteur de Côte d'Ivoire, is to respond to the growing number of cases of emerging highly resistant bacteria in at-risk departments in the Cocody and Treichville hospitals and the Burn Center run by the emergency services (SAMU). <https://bit.ly/3W9QEoQ>



### SEPTEMBER 2023

#### Strengthening capabilities in biosafety and biosecurity management and hygiene



The Institut Pasteur de Côte d'Ivoire organized six days of training, with the support of WHO and the West African Health Organization, to strengthen the expertise of staff working in containment or high-security laboratories and IPCI's technology core facilities. The course, taught by two international experts, focused on best laboratory practices, risk assessment, waste management, disinfection and sterilization procedures, biosafety when handling animals, packaging and labeling, and secure transport for infectious material. <https://bit.ly/45TY6aJ>

### AUGUST 2023

#### Genomics and bioinformatics training for students

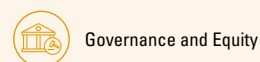
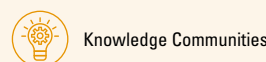
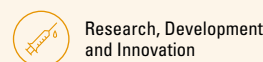
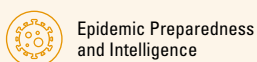
From August 26 to September 9, 2023, the Institut Pasteur de Côte d'Ivoire ran a training course for the RAM-BioInfo-One Health Certificate at Burkina Faso's Université Joseph Ki-Zerbo, focusing on a One Health approach to antibiotics and the use of modern genomics and bioinformatics tools to tackle antibiotic resistance. The two-week course included theoretical and practical sessions and was attended by around 20 students from Burkina Faso, Benin and Togo. It was organized in connection with the "Strengthening Expertise and Bioinformatics to Control Antimicrobial Resistance in West Africa (SEBA)" project run by universities in Burkina Faso, Benin and Finland with European Union funding (ERASMUS+). <https://www.infosciencesculture.com/en/node/97>

### AND ALSO

- Sequencing of 12 strains of *Klebsiella pneumoniae*, including four toto-resistant strains from the intensive care department in Cocody University Hospital.
- Phase II clinical trial to test the efficacy and tolerance of intravenous cipargamin (KAE609) for treating severe cases of malaria.
- Phase II clinical trial to test the efficacy of antimalarial agents administered as monotherapy and/or combination therapy in patients with uncomplicated malaria.
- Ethnobotanical study of anti-diarrheal plants and identification of new molecules effective against cryptosporidiosis.

## 50th

anniversary of the Institut Pasteur de Côte d'Ivoire, celebrated with a scientific conference, an open day and a sports day





## INSTITUT PASTEUR DE GUINÉE

The Institut Pasteur de Guinée is an independent Guinean public institution. As a leading platform for research and diagnostics, it investigates infectious diseases in Guinea with the help of state-of-the-art technologies and national and international partnerships.



### MAY 2023 First Advisory Board meeting

The Institut Pasteur de Guinée held its first Advisory Board meeting, with the participation of the Institut Pasteur management team, the French Embassy in Guinea and Sierra Leone, and partner ministries. The meeting represented a milestone in the institutional development of the Institut Pasteur de Guinée and was an opportunity for the stakeholders to discuss the key challenges facing the institute. <https://bit.ly/4ctanFJ>



### MAY 2023 Inter-Pasteurian Concerted Action (ACIP): Pasteur Network members meet at the Institut Pasteur de Guinée

In May 2023, the Institut Pasteur de Guinée organized a workshop for eight Pasteur Network teams involved in the ORACAN (ACIP) project on the phylogeography of angiostrongyliasis, or rat lungworm disease, which uses the snail *Achatina* spp. as an intermediate host. During the training, the partners learned methods for trapping, host identification and molecular characterization of the parasite.

<https://bit.ly/3L9nIHd>



### JULY 2023 SherPa: An innovative research project to develop a new generation of diagnostic tools for African trypanosomes

As part of efforts to eliminate sleeping sickness and monitor animal trypanosomiasis, the Institut Pasteur de Guinée, the Institut Pasteur and the IRD developed SHERLOCK, a novel ultra-sensitive method based on molecular scissors. In July 2023, the three partners ran a training course on the tool, using the Institut Pasteur de Guinée's cutting-edge facilities, for learners from Cameroon, Burkina Faso and Guinea.

<https://bit.ly/3xGfW4t>

### ID CARD



**Year of establishment:** 2015  
**Type:** Public Institution  
**Address:** Route de Donka, Quartier Landreah / Commune de Dixinn, Conakry, Guinea  
**Website:** <https://pasteur-network.org/en/members/african-region/institut-pasteur-de-guinee/>  
**Areas of expertise:** Virology, Parasitology, Medical biology and Vaccination center

### JUNE/OCTOBER 2023 Preventing zoonotic risks with the EBO-SURSUY and PROTEMO projects

In June, in connection with the PROTEMO project funded by the French Ministry for Europe and Foreign Affairs and led by the French Embassy in Guinea and Sierra Leone, the IPGui team traveled to Kounounkan Park in south-western Guinea, on the border with Sierra Leone, to raise awareness among local communities of the risk of zoonotic transmission from contact with peri-domestic animals (rats, mice, etc.) and wild animals. A film entitled "Integrated Approach" was produced during the mission to inform the local population about the team's activities, from the field to the lab.

<https://bit.ly/3WasEBO>

In October, in connection with the EU-funded EBO-SURSUY project, led by the World Organization for Animal Health (WOAH), the Institut Pasteur de Guinée carried out another awareness-raising campaign in traditional villages in Badiar National Park, on the border with Senegal in north-western Guinea. IPGui's work laying and retrieving rodent traps was presented in French and then translated into local languages (Badyara, Pular and Wamey), together with basic prevention messages.

<https://bit.ly/4eRxf3m>

## INSTITUT PASTEUR DE MADAGASCAR

The mission of the Institut Pasteur de Madagascar is to contribute to the prevention and treatment of diseases and to economic development through research, training and public health activities.

### ID CARD



**Year of establishment:** 1898  
**Type:** Private non-profit institute  
**Address:** B.P. 1274, Ambohitrakely, Antananarivo, Madagascar  
**Website:** <http://www.pasteur.mg/>  
**Areas of expertise:** Clinical biology, Entomology, Epidemiology, Bacteriology, Food and environmental hygiene, Immunology, Mycobacteria, Virology, Parasitology

### APRIL 2023 Pasteur Network course "The Social Dimensions of Epidemics"

The Institut Pasteur de Madagascar, in collaboration with the Institut Pasteur in Tunis, the Institut Pasteur in Paris and with the support of the Sonar Global, AFROSCREEN and TransVIHMI IRD projects, organized the course "The Social Dimensions of Epidemics" from April 17 to 21, 2023. 27 participants from African research and health institutes in 12 different countries were provided with the tools and concepts needed to conduct operational research in the Humanities and Social Sciences.

<https://bit.ly/45ZcPRW>

### JANUARY 2023 Improving health in prisons in Madagascar



The MIARINA project aimed to improve comprehensive care for tuberculosis and HIV in prisons. Following a qualitative study on the care pathway of detainees with these infections, training and tools were provided to prison stakeholders with a view to improving the health of prisoners. <https://bit.ly/3WaJzV5>

### JUNE 2023 Extension of community-based malaria management to all ages

The Institut Pasteur de Madagascar and the National Malaria Control Program organized a day specifically to share the mCCM "Malaria Community Case Management" results. The project, carried out in Farafangana, aimed to assess the effectiveness and feasibility of implementing the extension of community-based malaria management to all ages. This study is part of the strategy to reduce malaria-related morbidity and mortality in Madagascar.

<https://bit.ly/3xNZ9MP>



### OCTOBER 2023 Prevention of tuberculosis in newborns in Madagascar



On October 6, 2023, the Institut Pasteur de Madagascar organized a day for the implementation of the MTBVAC project "Evaluation of the safety and immunogenicity of the MTBVAC vaccine in relation to BCG in newborns in Madagascar (MTBVACN3)". This is a randomized, double-blind, controlled, Phase 3 trial to evaluate the efficacy, safety and immunogenicity of MTBVAC vaccine administered to healthy HIV-free and HIV-exposed neonates in TB-endemic areas of sub-Saharan Africa, including Madagascar.

<https://bit.ly/3WasNoQ>

## CERMES NIGER

**CERMES carries out research to improve the health of Niger's population.** It draws on 30 years of experience in biomedical research, public health and training, as well as the extensive local knowledge of its experienced staff. Its infrastructure and technical facilities are unique in Niger, with four research units, eight national reference laboratories and two technical platforms.



**APRIL 2023**

### Quality Award from the West African Health Organization (WAHO)

CERMES was presented with a Quality Award by the West African Health Organization (WAHO) at the third annual meeting of the Regional Reference Laboratories Network, held in Praia, Cabo Verde from April 17 to 19, 2023. Major progress has been made in recent years under the impetus of the General Director of CERMES, Professor Sabo Haoua Seini, in improving the quality of service provided by CERMES laboratories.

<https://bit.ly/4cPM0Is>

**1st**

accredited research supervisor (HDR) at CERMES: **Dr. Ibrahim Maman Laminou**

**3**

new scientists admitted to CESRI\*: **Colonel Physician Idé Habibatou, Ibrahim Karidio, Issifi Kollo Abdoul Kader**

\*Committee for the Assessment of Pasteur Network Scientists



**MAY 2023**

### Presentation of the research collection Contributions of SHS to understanding disease outbreaks in Niger: five empirical studies on COVID-19 and patient education

The research collection, published by Dr. Mamane Abdou Oumarou, contains five empirical studies on COVID-19 and patient education conducted between 2020 and 2022. The book is part of a program on the contribution of humanities and social sciences to understanding disease outbreaks in Niger. It was presented at a ceremony under the high patronage of the Ministry of Public Health, Population and Social Affairs on Tuesday May 2, 2023 at the Mahatma Gandhi International Conference Center in Niamey.

<https://shs.hal.science/halshs-04064292>  
<https://dx.doi.org/10.5281/zenodo.7816922>

## ID CARD



**Year of establishment:** 1980

**Type:** Public Institution

**Address:** 634, Boulevard de la Nation, YN034, Niamey, Niger

**Website:** <https://www.cermes.net/>

### Areas of expertise:

Bacteriology, Virology, Parasitology, Medical entomology, Epidemiology, Immunohematology, Molecular biology, Biosafety/Biosecurity, Quality Assurance, Training design



**DECEMBER 2023**

### Joint CERMES and SONIPI scientific days

The fourth CERMES Scientific Days and the first Niger National Infectious Disease Days, under the high patronage of the Ministry of Public Health, Population and Social Affairs, were held from December 6 to 8, 2023 at the Mahatma Gandhi International Conference Center in Niamey, Niger. The respective themes of the days were "Preserving the health of pregnant women and newborns, a challenge for research" and "Infectious diseases: challenges and prospects in tropical regions."

<https://bit.ly/3XS0s6e>

## INSTITUT PASTEUR DE BANGUI

**The Institut Pasteur de Bangui is a non-profit research foundation** with a high-quality technology platform for tackling major public health problems through international cooperation.



**MARCH 2023**

### Focus on cervical cancer in the Central African Republic



Often described as a "silent killer" in Africa, cervical cancer represents a major challenge, especially because of a lack of data in the Central African Republic. But the Institut Pasteur de Bangui has recently made a significant breakthrough with a screening campaign for human papillomavirus (HPV), diagnosed in more than 1,700 women over the age of 30.

<https://bit.ly/45UPwco>

As well as providing medical treatment for women who tested positive, this pioneering initiative will also serve as a basis for an

HPV prevalence study, supported by DCI Monaco. The study, set to be conducted in 2024, will focus on three areas around Bangui – Mbaiki, Boali and Damara – to shed light on the dynamics of cervical cancer in different environments. The research reflects the Institut Pasteur de Bangui's efforts to decentralize its activities and ensure the availability of diagnosis throughout the Central African Republic. The initiative will not only boost prevention; by identifying circulating HPV strains, it will help optimize vaccination strategies and improve treatment for patients.



**AUGUST 2023**

### A subregional approach to mpox in the Central African Republic

The recent mpox outbreak revealed the complex challenges raised by this disease at global level. For almost a decade, the Institut Pasteur de Bangui has played a crucial role in tackling mpox through surveillance, diagnosis, research and treatment, both at local and regional level and in Bangui. Its research on mpox offers a unique opportunity for subregional management of the disease, with a particular emphasis on cases originating in Congo and the Democratic Republic of the Congo and treated in the Central African Republic. <https://bit.ly/4cOewUl>

The aim is to consolidate the cross-border surveillance network and improve patient treatment practices by working closely with neighboring countries. In 2023, Bangui achieved a key milestone by offering mpox treatment for the first time, reflecting the significant progress made in terms of response capabilities.

<https://bit.ly/3zsWuZn>



However, much still needs to be done to improve surveillance across the country, guarantee fair access to diagnosis and treatment, and understand the impact of climate change on the emergence and re-emergence of vector-borne diseases. The efforts of Professor Nakouné and the Institut Pasteur de Bangui in virus research were recognized with the prestigious Mérieux Prize, which will be presented in June 2024. This represents an excellent opportunity to pursue research on emerging diseases and support young African scientists capable of offering innovative solutions to the health challenges facing the continent.

## ID CARD



**Year of establishment:** 1961

**Type:** Private non-profit foundation

**Address:** BP 923, Angle Avenue de l'Indépendance et Rue Pasteur, Bangui, Central African Republic

**Website:** <https://www.linkedin.com/company/institut-pasteur-bangui/>

### Areas of expertise:

Bacteriology, Medical entomology, Parasitology, Epidemiology, Virology, Molecular biology

**6**

The number of African countries involved in the SARA project coordinated by the Institut Pasteur de Madagascar with the Institut Pasteur (Paris): **Benin, Cameroon, Central African Republic, Madagascar, Morocco and Senegal.** <https://bit.ly/3YjRWyX>

ID CARD



**Year of establishment:** 1924  
**Type:** Private non-profit foundation  
**Address:** 36, Avenue Pasteur. B.P. 220, Dakar, Senegal  
**Website:** <https://institutpasteurdakar.sn/>  
**Areas of expertise:** Biomedical Research & Innovation, Manufacture of vaccines and diagnostics, Public health, epidemiological surveillance and response to epidemics, Training and talent development, Healthcare solutions and specialised laboratories



**JUNE 2023**  
**Partnership With Mastercard Foundation for MADIBA Workforce Training**

IPD and the Mastercard Foundation have announced a historic \$45 million partnership, a significant step towards achieving vaccine manufacturing autonomy in Africa. The multi-year project, aimed at developing and building a world-class workforce to support vaccine manufacturing, will establish a Center of Training Excellence to equip talented young people, particularly young women, with specialized skills in vaccine research, manufacturing, production, and distribution.  
<https://bit.ly/3zv1Mne>

**Institut Pasteur de Dakar is a world-class institution dedicated to combating infectious diseases.** Since 1924, IPD has worked to accelerate equitable, sustainable and affordable access to healthcare in Senegal, Africa and around the world.

**JANUARY 2023**  
**Partnership with CEPI to boost manufacturing of affordable vaccines for the Global South**

This partnership will advance equitable access to vaccines by expanding IPD's capacity to produce routine immunization vaccines across multiple technologies, and reserve capacity to rapidly supply vaccines to Global South countries during disease outbreaks. This huge collaboration will see CEPI invest up to \$50 million over 10 years. IPD joins CEPI's global manufacturing network which will support agile and resilient manufacturing in the Global South - boosting and accelerating access to life-saving vaccines during future outbreaks and pandemics.  
<https://bit.ly/45O87q5>

**MAY 2023**  
**SARA Project: Strengthening antibiotic resistance surveillance in Africa through training**



IPD hosted the Training workshop on the sequencing and bioinformatics analysis of bacterial genomes co-organized with the Institut Pasteur as part of the SARA project "Surveillance of Antibio-Resistance in Africa", with 21 participants from 9 countries who attended the various theoretical and practical sessions of this course, which makes a greater contribution to optimizing the integration of results, epidemiological approaches and new technologies into existing national surveillance systems, while taking account of the public health recommendations of each country.  
<https://bit.ly/4ctcKID>

**JUNE 2023**  
**GATTA First International Course on Genomic Algebra**

From 19 to 27 June 2023, IPD welcomed participants from 13 countries (Senegal, Ethiopia, Central African Republic, Cameroon, Botswana, Nigeria, Tunisia, Madagascar, Republic of Korea, Zimbabwe, France, Namibia) as part of the international GATTA course with the aim of:  
 - Sharing concepts and methodologies derived from the discovery of Genomic Algebra to scientists specializing in the bioinformatics analysis of pathogens

- Training participants in the use of a symbolic programming language needed to develop existing software
- Applying these new tools and concepts to the study of SARS CoV-2 genomes circulating in Senegal and West Africa.  
<https://bit.ly/4cjyLcJ>



**List of WHO Collaborating Centres (WHOCC) hosted by members of the Pasteur Network**

The Pasteur Network has strong epidemiological capabilities, which are anchored in national health systems and robust public health mandates with MOHs, including more than 50 national and regional reference centers and 17 WHO Collaborating Centres.

National and regional reference laboratories are recognized by national health authorities for their expertise in the field of diagnostics. WHO Collaborating Centres (WHOCC) are research institutes, university or academic departments designated by the Organization to carry out activities in support of national and international health programs\*.

\*Source : <https://www.who.int/about/collaboration/collaborating-centres>

**INSTITUT PASTEUR**

- WHOCC for Rabies
- WHOCC for Salmonella
- WHOCC on Plague control and research
- WHOCC for Research on the Epidemiology and Macroevolution of Polioviruses and Non-Polio Enteroviruses
- WHOCC for Bacterial Meningitis
- WHOCC for Human African Trypanosomiasis Biobank
- WHOCC Listeria

**INSTITUT PASTEUR DE DAKAR**

- WHOCC for Arboviruses and Hemorrhagic Fever Viruses

**INSTITUT PASTEUR DE MADAGASCAR**

- WHOCC on Plague control and research

**PASTEUR INSTITUTE OF IRAN**

- WHOCC for Reference & Research on Rabies

**HKU-PASTEUR RESEARCH POLE**

- WHOCC for Infectious Disease Epidemiology and Control

**INSTITUT PASTEUR DE LA GUYANE**

- WHOCC for Surveillance of Anti-malarial Drug Resistance

**FIOCRUZ**

- WHOCC for Pharmaceutical Policies
- WHOCC for Education of Health Technicians
- WHOCC for Leptospirosis
- WHOCC to Strengthen Human Milk Banks
- WHOCC for Global Health Diplomacy and South-South Collaboration



**Technological Platform Catalog**

This catalog provides detailed information about the scientific platforms within the Pasteur Network. A scientific technical platform is defined as any center, unit, or laboratory—complete with personnel and infrastructure—belonging to Pasteur Network members that are dedicated to offering services and access to external scientific users.

<https://pasteur-network.org/en/technological-platforms/>



ALL ABOUT THE MEMBERS  
OF THE PASTEUR NETWORK:  
[pasteur-network.org/en/members/](https://pasteur-network.org/en/members/)

# AMERICAS

The Americas region includes 6 members of the Pasteur Network located in various ecosystems. Equipped with cutting-edge technological platforms (Amazonian vectopole, genomics and sequencing, environment and immunology), they put their knowledge at the service of research and public health.

## Board members



**Carlos Batthyany**  
Institut Pasteur de Montevideo



**Mario Moreira**  
Oswaldo Cruz Foundation (Fiocruz) since 2024

**Antoine Talarmin and Antoine Desgraviers**  
Institut Pasteur de la Guadeloupe in 2023



6

members



6

WHO Collaborating Centres

- Surveillance of Anti-malarial Drug Resistance (Institut Pasteur de la Guyane)
- Pharmaceutical Policies; Education of Health Technicians; Leptospirosis; Strengthening Human Milk Banks; Global Health Diplomacy and South-South Collaboration (Fiocruz)

Promoting health and social development, as well as generating and disseminating knowledge, are core aspects of the mission of the Fiocruz – Oswaldo Cruz Foundation, the largest health institution in Latin America.

**MAY 2023**  
**WHO and Fiocruz sign cooperation agreement in epidemiological intelligence hub**

A key focus of the collaboration involves enhancing the integration of surveillance data through the utilization of Fiocruz's established surveillance platforms and services. The agreement was signed during the World Health Assembly in Geneva by Mario Moreira, President of Fiocruz, and Chikwe Ihekweazu, Assistant Director-General of the WHO and Head of the Hub. <https://bit.ly/3xO1mYD>

**APRIL 2023**  
**Fiocruz reaffirms commitment to equity, diversity and inclusion**

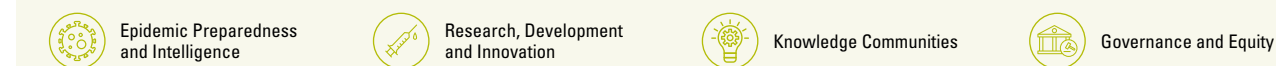
Fiocruz has taken a significant stride towards reinforcing and implementing institutional initiatives and policies in support of ethnic-racial and gender equity, diversity, and inclusion. The Foundation launched the Ethnic-Racial and Gender Equity Policy and unveiled the new Coordination of Equity, Diversity, Inclusion, and Affirmative Policies (Cedipa) to the internal community. Established in March by the Presidency of Fiocruz, Cedipa aims to champion these values. Additionally, in August, Fiocruz initiated an unprecedented Master's Degree program in Collective Health tailored specifically for Indigenous people. <https://bit.ly/3LbuNXH>

**JUNE 2023**  
**Fiocruz-Pasteur-Birmingham international unit will investigate fungal diseases**

The Carlos Chagas Institute (ICC/ Fiocruz Paraná) is set to host an International Research Unit of the Institut Pasteur. Over the next five years, this unit will delve into the mechanisms by which fungi inflict harm on the human host. The University of Birmingham in England is also a partner in this endeavor, collaborating to advance research in this field. <https://bit.ly/3zrbirv>

**AND ALSO**

- ▶ **Maternal and congenital syphilis attributable to ethnoracial inequalities: a national record-linkage longitudinal study of 15 million births in Brazil.**
- ▶ **Effectiveness of mRNA boosters after homologous primary series with BNT162b2 or ChAdOx1 against symptomatic infection and severe COVID-19 in Brazil and Scotland: a test-negative design case-control study.**
- ▶ **Rare genetic variants involved in multisystem inflammatory syndrome in children: a multicenter Brazilian cohort study.**
- ▶ **Mosquito vector competence for dengue is modulated by insect-specific viruses**
- ▶ **Genomic epidemiology unveils the dynamics and spatial corridor behind the Yellow Fever virus outbreak in Southern Brazil.**



**ID CARD**

**RIO DE JANEIRO**  
Brazil

**Year of establishment:** 1900  
**Type:** Public Institution  
**Address:** Av. Brasil, 4365 - Manguinhos, Rio de Janeiro, Brazil  
**Website:** <https://portal.fiocruz.br/en>  
**Areas of expertise:** Health technologies, immunobiology, infectiology, women's, children's and adolescents' health, public health



**NOVEMBER 2023**  
**Yellow fever: Fiocruz and Anlis sign agreement to produce vaccine in Argentina**

This marks the Foundation's inaugural signing of a Term of Commitment aimed at transferring knowledge and technology to a partner nation. This agreement will empower the National Administration of Laboratories and Institutes of Health Dr. Carlos Malbrán (Anlis) to manufacture and distribute the yellow fever vaccine within its country. <https://bit.ly/3XSPC1A>

**ID CARD**

**SÃO PAULO**  
Brazil

**Year of establishment:** 2019 (former Scientific Platform Pasteur-USP)  
**Type:** Private non-profit association  
**Address:** Av. Prof. Lucio Martins Rodrigues, 370 São Paulo, Brazil  
**Website:** <https://www.pasteur-sp.org.br>  
**Areas of expertise:** Integrative biology, Eco-epidemiology, diversity, and evolution of emerging viroses, Genomic surveillance and vaccine Innovation, Modeling nervous system diseases, Trypanosomatids Infectious processes, Vaccinology, Clinical and molecular virology

**MARCH 2023**  
**New potential vaccines against cervical cancer**

HPV stands out as the primary cause of cervical cancer fatalities among women. The emergence of RNA vaccines has demonstrated efficacy in providing protection against the advancement of severe pathologies, as evidenced by RNA-based COVID-19 vaccines. In a study, three distinct mRNA vaccines aimed at tumors linked with HPV-16 infection in mice were administered. A single dose of all three platforms, combined with the E7 HPV oncoprotein, triggered the activation of CD8+ T cells and induced the control of tumors. Memory T cell responses showed potential in preventing relapses, underscoring the need for further clinical evaluation of these platforms. <https://bit.ly/3XRjWK3>

- AND ALSO**
- ▶ **A new arenavirus species in *Carollia perspicillata* bats.**
  - ▶ **Potential of HFV & worldwide emergencies.**
  - ▶ **Therapeutic potential of anti-flavivirus treatments.**
  - ▶ **Sensory neurons in a dish.**

The Institut Pasteur de São Paulo addresses major public health challenges, leveraging Brazil's diverse biodiversity to address the impacts of climate and environmental changes on both acute and chronic diseases, disease transmission, host responses, and overall population well-being. The team's efforts also focus on diseases that lead to developmental impairment or degeneration of the neurological system.

**MARCH 2023**  
**Creation of the Institut Pasteur de São Paulo**



During a ceremony in Paris, the president of the Institut Pasteur and the rector of the University of São Paulo formalized the establishment of the Institut Pasteur de São Paulo (IPSP), a private non-profit organization under Brazilian law. The IPSP represents the evolution of the former Scientific Platform Pasteur – USP. As a member of the Pasteur Network, the institute is committed to conducting research primarily in the areas of infectious diseases and neurobiology, with the goal of contributing to human and animal health. Additionally, the institute aims to promote extension activities, education, innovation, knowledge transfer, and public health initiatives. <https://bit.ly/3XK9CUa>

**MARCH AND DECEMBER 2023**  
**How to prepare for new viruses**

Understanding the emergence of viral pathogens and their impact on global human health is of paramount importance. Research focused on genetic diversity, eco-epidemiology, and the evolution of RNA and DNA viruses found in both wild and domestic reservoir animals, with known or potential zoonotic transmission, is particularly crucial. Examples include the SARS-CoV-2 pandemic and highly lethal hemorrhagic fever viruses. In December 2023, a new G4 group was established within the institute to further investigate these critical questions. <https://bit.ly/4bqsvyE>



## INRS ARMAND-FRAPPIER SANTÉ BIOTECHNOLOGIE RESEARCH CENTRE

### ID CARD



LAVAL  
Canada

**Year of establishment:** 1938  
(creation of the Montreal Institute of Microbiology and Hygiene, now the INRS Armand-Frappier Santé Biotechnologie Research Centre)

**Type:** Public Institution

**Address:** 531, Boulevard des Prairies, Laval, Canada

**Website:**  
<https://bit.ly/3WmGnVa>

**Areas of expertise:**

Microbiology, Virology, Parasitology, Virus-Host interactions, Immunology, Biotechnology, Biochemistry, Structural biology, Environmental sciences, Toxicology, Medicinal chemistry, Epidemiology, Neurosciences, Food sciences, Accredited Anti-doping Center



### NOVEMBER 2023

#### Beyond studies and research



A PhD student in molecular virology, Aïcha Sow, showcased her talents as a science communicator and her passion for research at the 2023 Pasteur Network Annual Meeting in Tunis. The young researcher presented the results of her thesis on the neuropathogenesis of the Zika virus in a novel animal model. An enriching experience for Ms. Sow, who also took part in a panel discussion on the development of multidisciplinary knowledge communities. <https://bit.ly/3Laby0E>

The INRS Armand-Frappier Santé Biotechnologie Research Centre contributes to Quebec's efforts in research, training, and technology transfer in the fields of disease detection and prevention with a view to improving human, animal and environmental health.



### DECEMBER 2023

#### A biocontainment level 3 research pipeline for responding to future pandemics caused by arboviruses

Climate change could contribute to the re-emergence of new highly pathogenic viruses in Canada such as arboviruses which are transmitted by insects. Professor Laurent Chatel-Chaix is spearheading the containment level 3 cell culture laboratory at INRS in preparation for future pandemics caused by arboviruses including basic virology, prophylaxis, antivirals discovery and diagnosis.



### JUNE 2023

#### Zebrafish models as powerful tools for studying human diseases

Pr. Kessen Patten is collaborating with Dr. Nicolas Wolff from the Institut Pasteur on a project using zebrafish to unveil the molecular and cellular mechanisms behind Usher syndrome II, a rare genetic disorder responsible for deafness and blindness in humans. They are trying to understand how the Usher syndrome gene (ADGRV1) and partners ensure the sensory cell growth and morphogenesis needed for hearing and vision.



### JULY 2023

#### Cross-border research into endemic diseases

After several years of collaboration, Professor Frédéric Veyrier has initiated the creation of a research consortium dedicated to the study of tropical diseases with his counterparts at the Institut Pasteur de Nouvelle-Calédonie (IPNC). Professor Veyrier, a specialist in genomic bacteriology, will coordinate the Bactériopole, a new structure specializing in environmental and medical bacteriology, leptospirosis, and the bioactivity of natural substances. <https://bit.ly/3RW6FvR>



INRS Professors Amadou Barry, Charles Gauthier and Marie-Claude Sincennes are bringing new expertise to Quebec's regions, as part of a Joint Research Unit in sustainable health. This unit has been created by INRS in collaboration with UQAC to foster collective prosperity in a time of major societal challenges, mainly in the genetic and epigenetic determinants of health and in medicinal chemistry

## INSTITUT PASTEUR DE LA GUADELOUPE

### ID CARD



POINTE-A-PITRE  
Guadeloupe

**Year of establishment:** 1948

**Type:** Private non-profit foundation

**Address:** Lieu-dit Morne Jolivière, 97139 Les Abymes Cedex, France

**Website:**  
<http://web.pasteur-guadeloupe.fr/>

**Areas of expertise:**

Environment and food hygiene, medical biology, transmission, pathogen reservoirs, vectors and diversity



### NOVEMBER 2023

#### Bacterial microbiota management in free-living amoebae

Scientists from the Institut Pasteur de la Guadeloupe characterized the natural bacterial microbiota of four different species of free-living amoebae (FLA) isolated from recreational waters in Guadeloupe. They discovered that these protozoa host either transient or permanent bacterial microbiota, some of which are pathogenic to humans, depending on their growth conditions. Further research is ongoing to unravel the intricate interplay between FLA and their intracellular bacteria. <https://bit.ly/3XSQdAm>



### SEPTEMBER 2023

#### Collaboration between institutions leads to breakthrough dengue genome sequencing

Following the dengue outbreak of 2019-2021 in Martinique and Guadeloupe, complete genome sequencing was conducted on 32 specimens through enhanced collaboration between the Institut Pasteur de la Guadeloupe and the University Hospitals of Guadeloupe, Martinique, and Marseille. Phylogenetic analysis identified the circulation of genotype V for DENV-1, the cosmopolitan genotype for DENV-2, and genotype III for DENV-3, confirming the unique epidemiological characteristics of each island. <https://bit.ly/4bycvL4>



### SEPTEMBER 2023

#### Validation of a QuEChERS-HPLC-MS/MS method to analyze chlordecone in human serum

The Institute published a new analytical method utilizing a QuEChERS extraction of serum followed by analysis with Liquid Chromatography coupled with Mass Spectrometry. The institute received COFRAC accreditation in accordance with standard NF 15189. This method will enable routine analysis for CLD in the entire populations of Guadeloupe and Martinique and will be beneficial for future projects aimed at enhancing health monitoring in these regions. <https://bit.ly/45ZgFKH>



### APRIL 2023

#### Better understanding of the electrophysiological basis of Aedes aegypti behavior

The Vector-Borne Diseases Laboratory acquired equipment to study how mosquitoes perceive odors through their antennae. The lab demonstrated that the physiology and infection status of mosquitoes can lead to behavioral changes in Aedes aegypti. Specifically, researchers assessed how infection with the chikungunya virus (CHIKV) and the number of gonotrophic cycles influence oviposition activity. <https://bit.ly/3zv3Qvt>

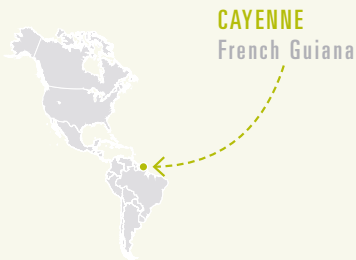
# 1,500

samples analyzed during the dengue outbreak, 30% positive

# 5,038

samples of Chlordeconemia analyzed

ID CARD



**Year of establishment:** 1940  
**Type:** Private non-profit foundation  
**Address:** 23 Av. Pasteur, B.P. 6010, Cayenne, France  
**Website:** <http://www.pasteur-cayenne.fr>

**Areas of expertise:**  
 Virology, parasitology, mycobacteriology, virus-host interactions, hygiene and environment, microbiota of insect vectors, medical entomology

**MAY 2023**  
**Advancing the understanding of Maripa hantavirus and its emergence**

A study conducted by researchers from the institute delineates the clinical parameters and treatment strategies for nine confirmed cases of hantavirus pulmonary syndrome documented in French Guiana from 2008 to 2022. Serving as the National Hantavirus Reference Center, the Institut Pasteur de Guyane's associated laboratory performed molecular and serological diagnoses, as well as sequencing, and provided acute descriptions of the two distinct phases of the disease: the prodromal (nonspecific) phase and the illness phase. The identification of two recent consecutive cases underscores the importance of screening for hantavirus infection during the nonspecific phase of the disease, especially when concurrent pulmonary and digestive disorders are present. <https://bit.ly/3xJOGSj>

In French Guiana, the institute's focus on preventing and treating diseases, particularly infectious ones, revolves around three main priorities: conducting research, providing support for public health, and offering education and training, with 11 students trained (4 PhD, 3 Master's, 4 Undergraduate).

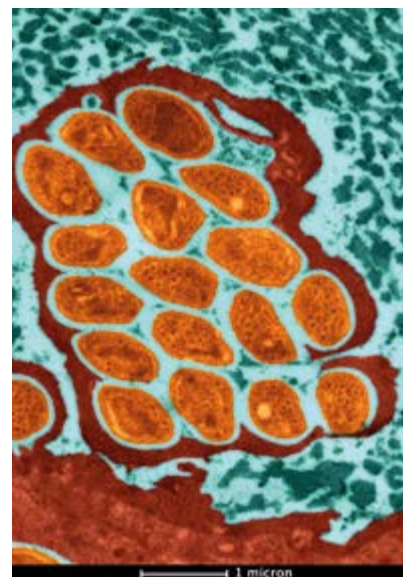


**DECEMBER 2023**  
**Description of two new species of mosquitoes in the Amazonian savannas**

In 2023, the medical entomology unit received recognition from public authorities (ARS-MOH) to conduct a comprehensive survey of mosquito vectors in French Guiana. The survey is conducted in urban areas, especially during the current dengue 2023-24 outbreak, but also in natural environments such as rainforests, mangrove forests (PhD project - see picture), and savannas. Sampling in these environments has led to a better description of the culicid fauna in French Guiana. Notably, two new species, *Culex (Melanoconion) organaboensis* sp. nov. and *Cx. (Mel.) zabanicus* sp. nov., were described based on both the morphological characteristics of male genitalia and DNA barcodes obtained from type specimens. <https://bit.ly/3WaNf9I>

**OCTOBER 2023**  
**Studying the impact of parasite piperazine resistance on malaria treatment effectiveness**

In order to describe the emergence of piperazine resistance in *Plasmodium falciparum* in the Guiana Shield, a 20-year retrospective study (1997-2018) was performed on isolates collected in French Guiana and neighboring countries. The study revealed their high prevalence in parasites populations from French Guiana (59%), Suriname (83%) and Guyana (73%). These findings highlight the need for caution in the use of dihydroartemisinin-piperazine in the region. Additionally, attention should be paid to potential variations in genotype-to-phenotype mapping across genetically distinct parasite populations from different continents. <https://bit.ly/4bBru6S>



ID CARD



**Year of establishment:** 2004  
**Type:** Private non-profit foundation  
**Address:** Mataojo 2020, Montevideo, Uruguay  
**Website:** <https://pasteur.uy/en/>

**Areas of expertise:**  
 Biochemistry, Biotechnology, Bioinformatics, Cell biology, Innovation, Virology, Immunology, Functional genomics, Metabolic diseases, Drug design & development, Animal biotechnology

The Institut Pasteur de Montevideo prioritizes scientific research in biomedicine, emphasizing the "One Health" concept, and endeavors to promote the advancement of science through innovation. It boasts cutting-edge scientific core facilities in various disciplines such as genomics, proteomics, bioinformatics, as well as molecular and cell biology.



**APRIL 2023**  
**Historical agreement with Weizmann Institute**

A collaboration agreement inked with the Weizmann Institute of Science will enable researchers from the Institut Pasteur de Montevideo to pursue internships at Israel's esteemed scientific institution. Spanning a minimum of six months, these internships provide significant learning prospects and potential for collaboration, given the complementary research interests shared by both organizations. Moreover, the agreement facilitates visits by researchers from the Weizmann Institute to Uruguay, promoting reciprocal exchange of knowledge. <https://bit.ly/4cURk6T>

AND ALSO

- ▶ **Eolo Pharma announces the first clinical trials for its leading drug for obesity and type II diabetes.**
- ▶ **IP Montevideo signs an agreement as a partner of a biotechnological startup, Xeptiva, founded by our former Director Dr. Luis Barbeito.**
- ▶ **Celebrating Louis Pasteur's 200th Anniversary with a traveling art exhibition aimed at the general public.**
- ▶ **Scientists from IP Montevideo won the Inter-Pasteurian Concerted Actions (ACIP) call for researchers and one was chosen to lead a Pasteur International Research Unit.**

**SEPTEMBER 2023**  
**Orchestrating cell division in Corynebacteria**

The Corynebacteriales order, housing prominent industrial and pathogenic Actinobacteria like *Corynebacterium glutamicum* and *Mycobacterium tuberculosis*, exhibits unique features in cell wall composition and polar growth, according to a study led by the Institut Pasteur de Montevideo and Institut Pasteur Paris. The study also highlights the evolution of a protein scaffold in Corynebacteriales, resembling the gephyrin/GlyR system in higher eukaryotes, governing cell division and morphogenesis. <https://bit.ly/3xKwYhI>

**OCTOBER 2023**  
**Navigating the Genomic Landscape of Trypanosoma cruzi: a chromatin interaction odyssey**

Trypanosomes, responsible for diseases such as sleeping sickness and Chagas, safeguard their genomic information in two distinct compartments known as C and D. Employing sophisticated mapping methods, researchers from the Institut Pasteur de Montevideo have uncovered variations in DNA methylation, nucleosome positioning, and chromatin interactions between these compartments. Revealing the three-dimensional structure of the trypanosome genome offers insights into how these parasites control gene expression and identifies potential targets for future therapeutic interventions. <https://bit.ly/3RYj7LS>

**OCTOBER 2023**  
**CD300f: a key player in healthy aging**

Recent findings highlight the pivotal involvement of immune receptors in various aging-related mechanisms, including energy metabolism, inflammation, and cognitive deterioration. Among these receptors, CD300f stands out for its ability to integrate both activating and inhibitory cell-signaling pathways, which regulate inflammation, efferocytosis, and microglial metabolic health. A study carried out by researchers at the Institut Pasteur de Montevideo provides compelling evidence indicating that the myeloid cell CD300f immune receptor plays a significant role in promoting healthy aging. <https://bit.ly/3WZaZgN>

**4 startups selected in the first international call of the LAB+, the company builder of the Institut Pasteur de Montevideo**



ALL ABOUT THE MEMBERS  
OF THE PASTEUR NETWORK:  
[pasteur-network.org/en/members/](https://pasteur-network.org/en/members/)



# ASIA-PACIFIC

An epicenter of outbreaks, the Asia-Pacific region is a hub for pandemic preparedness and the establishment of innovative public health strategies. From field studies through drug discovery, the expertise and synergy between the members of the Pasteur Network generate knowledge and provide opportunities in research and training.

## Board members

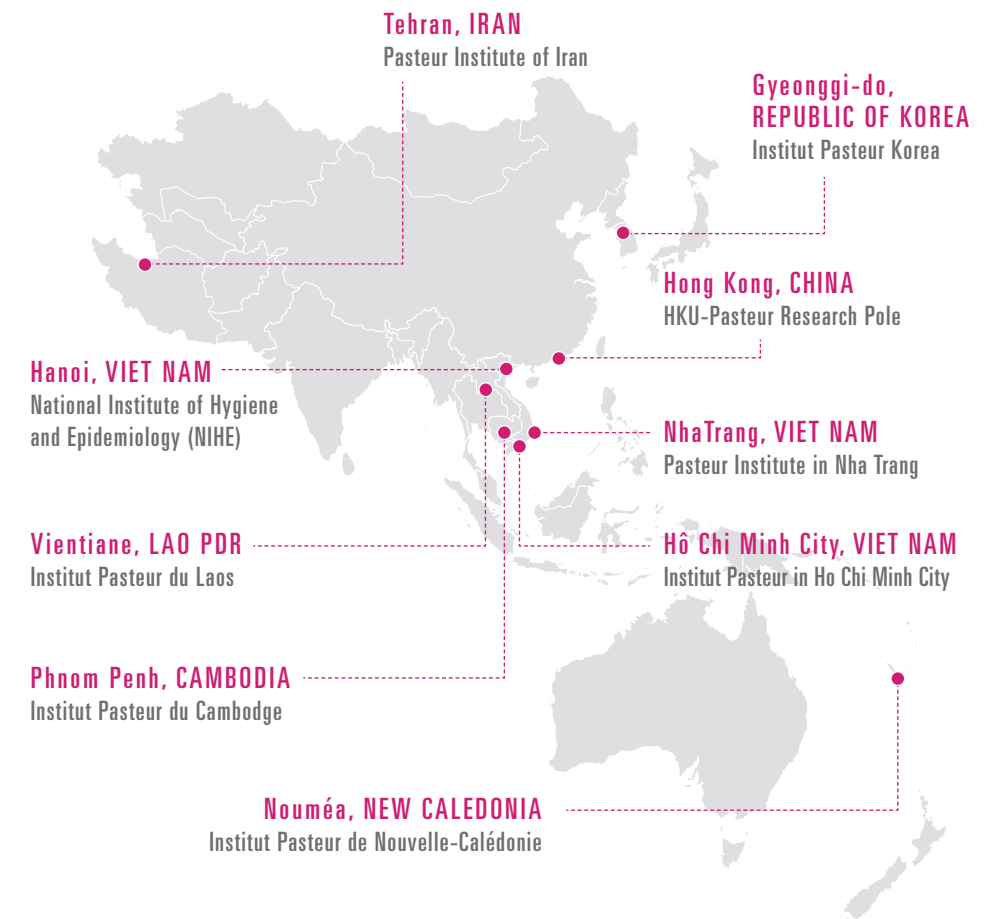


**Leo Poon**  
HKU-Pasteur Research Pole



**Philippe Buchy**  
Institut Pasteur du Laos  
since 2024

**Byungkwon Lim**  
Institut Pasteur Korea  
in 2023



9

members



2

WHO Collaborating Centres

- ▶ Infectious Disease Epidemiology and Control (HKU-Pasteur Research Pole)
- ▶ Rabies (Pasteur Institute of Iran)



The Institut Pasteur du Cambodge (IPC) is a research institution established in 1953. Its mission is to contribute to the prevention and treatment of disease through research, public health, and training mainly on infectious diseases and emerging pathogens.

**JUNE 2023**  
**1st International Symposium on Ticks and Tick-borne Diseases in South-East Asia**



The symposium was organized by the IPC as part of the Veterinary Entomology in Cambodia (VECAM) project, funded by the French Ministry of Foreign Affairs and supported by the French Embassy and its Solidarity Fund for Innovative Projects. The meeting encouraged international-level scientific exchanges on the objectives to combat tick-borne diseases in South-East Asia. This unique initiative provided an opportunity for all of those working in the field of ticks and related diseases to meet up with the firm intention of developing a sustainable network for the ASEAN countries.  
<https://bit.ly/3VUmBQD>

**SEPTEMBER 2023**  
**Workshops organized through the EU-funded Project 81**

The IPC hosted two workshops on the Laboratory Handling and Management of High Consequence Pathogens in September 2023. These workshops, organized through the EU-funded Project 81: BIOSEC Enhanced Biosecurity in South East Asia, and conducted by an expert team from the UK Health Security Agency, were specifically designed to elevate biosecurity practices in Southeast Asia. While IPC possesses substantial expertise and experience in safety enclosure protocols, the proposal by the experts of Project 81 to conduct two workshops in this domain presented a valuable opportunity for IPC to contribute to the broader mission of elevating biosecurity standards in the region.  
<https://bit.ly/45UA6o8>

**SEPTEMBER 2023**  
**Course on Flow Cytometry & Applications**

In September 2023, the IPC Immunology Unit organized a course on flow cytometry and its applications. Sixteen international students, including students from eight different Pasteur Network institutes, were selected to take part in the course. The week-long course combined both theoretical and practical sessions to teach students the various applications of flow cytometry. The course was co-funded by the Pasteur Network, the Wellcome Trust, the NIH PICREID project and DKSH.  
<https://bit.ly/3VNg3TT>

**AND ALSO**

- **Mosquito diversity (Diptera: Culicidae) and medical importance in four Cambodian forests.**
- **Ecomore 2 Final Meeting.**
- **Substantial NIH support for two IPC research scientists.**

**70th anniversary of IPC presence for the benefit of science and health in Cambodia (1953-2023)**

**ID CARD**



**Year of establishment:** 1953  
**Type:** Non-profit institution  
**Address:** 5, Monivong Boulevard, BP983, Phnom Penh, Cambodia  
**Website:** <https://www.pasteur-kh.org/>  
**Areas of expertise:** Malaria, Immunology, Medical & veterinary entomology, Epidemiology, Clinical research, Public health, Virology, Genomics, Medical biology, Bacteriology, Vaccination, Laboratory of Environment and Food Safety



**DECEMBER 2023**  
**Avian influenza in Cambodia**

Highly pathogenic avian influenza, subtype A/H5N1 has been endemic in Cambodia since 2004 with 67 reported human cases (CFR 63.6%) and 65 reported poultry outbreaks reported into 2024. Avian influenza continues to circulate in Cambodia, especially during festival periods. Longitudinal surveillance between IPC and the National Animal Health and Production Institute supported by FAO, showed that A/H5N1 viruses were still detected regularly into 2023. In 2023, IPC Virology Unit helped to respond to 6 cases of A/H5N1 clade 2.3.2.1c in humans, the first detected in the country since 2014.

The University of Hong Kong-Pasteur Research Pole is a medical research laboratory that aims to produce biological knowledge to advance the understanding and treatment of infectious diseases.

**JUNE 2023**  
**Training the next generation of scientists on outbreak investigation and pandemic preparedness**

HKU-Pasteur is a center of excellence for teaching and training aiming to educate and inspire postgraduate students and early career researchers from all over the world with a global vision of health problems and unmet patients' needs. With an emphasis on SARS-CoV-2, understanding of its biology and countermeasures developed to mitigate the pandemic, this course addressed the major challenges of outbreak investigation and pandemic preparedness with an inclusive One Health approach.  
<https://bit.ly/3LbdYMx>



**ID CARD**



**Year of establishment:** 1999  
**Type:** Public Institution  
**Address:** 7/F Hong Kong Jockey Club Building for Interdisciplinary Research, 5 Sassoon Road, Hong Kong, China  
**Website:** <http://www.hkupasteur.hku.hk/>  
**Areas of expertise:** Computational biology, The gut microbiome in health and disease, Immunology, Virology

**AUGUST 2023**  
**SARS-CoV-2: How the history of human populations influences their immune response**

During the COVID-19 pandemic, the clinical spectrum observed among people infected ranged from asymptomatic carriage to death. The teams have investigated with researchers from the Centre for Immunology & Infection (C2i)/Institut Pasteur (Paris)/CNRS/College de France the extent and drivers of differences in immune responses to SARS-CoV-2 across populations from Central Africa, Western Europe and East Asia. They show that latent cytomegalovirus infection and human genetic factors, driven by natural selection, contribute to population differences in immune response to SARS-CoV-2 and the severity of COVID-19.  
<https://bit.ly/45QAAdAQ>

**OCTOBER 2023**  
**The episodic resurgence of highly pathogenic avian influenza H5 virus**

Highly pathogenic avian influenza H5N1 activity has intensified globally since 2021, replacing the dominant H5N8 virus. H5N1 viruses have spread rapidly to four continents, causing increasing reports of mass mortality in wild birds and poultry. The investigation of global avian influenza H5 virus outbreaks over the past few years suggests various genomic evolutions as well as geographical shifts regarding the virus epicenters.  
<https://bit.ly/45RZQkQ>

**JANUARY 2023**  
**Real-world COVID-19 vaccine effectiveness against the Omicron BA.2 variant in a SARS-CoV-2 infection-naive population**

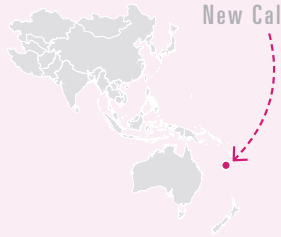
Combining results from a community-wide serological survey and volunteers with SARS-CoV-2 viral load data from city-wide wastewater surveillance, the study reveals that 3 or 4 doses of the Comirnaty or CoronaVac vaccines remain effective in preventing Omicron infection. Thus, surge booster campaigns, particularly with updated bivalent mRNA vaccines, could be strategically used to rapidly boost population immunity when there is a risk of future waves of infections arising from a concerning novel virus variant.  
<https://bit.ly/4csb07i>

**AND ALSO**

- **Investigating the development of universal vaccines targeting different viruses following the COVID-19 pandemic.**
- **Viral subversion of selective autophagy is critical for biogenesis of virus replication organelles.**
- **Within-host genetic diversity of SARS-CoV-2 lineages in unvaccinated and vaccinated individuals.**
- **Development of multiplex RT-ddPCR assays for detection of SARS-CoV-2 and other respiratory viruses.**

ID CARD

NOUMEA  
New Caledonia



**Year of establishment:** 1955

**Type:** Private non-profit foundation

**Address:** 9-11, Avenue Paul Doumer, BP 61, 98845 Noumea, New Caledonia

**Website:**  
<http://www.institutpasteur.nc/en/>

**Areas of expertise:**  
Bioactivities of natural compounds, Viruses (Dengue and Arboviruses), Medical and environmental bacteriology, Medical entomology

**DECEMBER 2023**  
**G-NOMIC project restitution on Lifou Island**



As part of a collaborative research program involving INSERM UMR\_1109, and the dispensary of WE on Lifou island, the G-NOMIC study investigates genetic variants associated with gout in the New Caledonian population. Families with multiple cases of gout have been identified, including juvenile female cases, revealing the involvement of some rare genetic variants, such as the Lactate Dehydrogenase-D (LDHD) gene. This exome sequencing approach has shed light on new variants potentially involved in the inflammatory mechanisms of gout. The discovery of these pathogenic variants could lead to the early identification of at-risk individuals and more effective prevention strategies, including dietary interventions.  
<https://bit.ly/3zqSWa5>

The Institut Pasteur de Nouvelle-Calédonie is a healthcare research institution. As a member of the Pacific Public Health Surveillance Network, it shares its expertise through training and links with health authorities.



**DECEMBER 2023**  
**Third edition of the Medical Entomology regional course**

The course, organized with the University of New Caledonia (UNC), was successfully held in Noumea from December 4 to 15, 2023. Focusing on vector-borne diseases affecting the Pacific region, the event brought together subject matter experts from over 13 countries to explore the biology of mosquito vectors and showcase modern methods of epidemic control. Aimed at Master's students wishing to deepen their knowledge, as well as experienced vector monitoring or control technicians in the Pacific region, this course, offered in English with French translation, has been supported by the Pacific Community (SPC) and has received enthusiastic positive feedback from all stakeholders.  
<https://bit.ly/3W7w7kl>

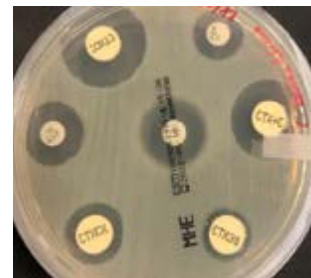
**JUNE 2023**  
**SpiRAL project soil, rain and Leptospirosis**



Leptospirosis, endemic in the tropical belt and particularly present in New Caledonia, is closely studied by our bacteriological unit. To better understand the role of the environment in the spread of the disease, the Spiral project, funded by the French National Research Agency, was launched in 2020. In addition, in collaboration with clinicians from the Centre Hospitalier Territorial (CHT) and the Centre Hospitalier du Nord (CHN), the unit is exploring the treatment modalities of leptospirosis as part of the LepjarNC project, focusing in particular on the transient Jarisch-Herxheimer inflammatory reaction. In partnership with WHO and SPC, regional cooperation with Fiji and Vanuatu is also under way to strengthen molecular and serological diagnostic capacity through training.  
<https://bit.ly/3XQ2Pbv>

**FEBRUARY 2023**  
**The Arcane Bio-resistance project**

A study conducted by IPNC's Medical and Environmental Bacteriology Group proposes an innovative method to detect Carbapenemase-producing Enterobacteriaceae (CPE), antibiotic-resistant pathogens. This method identified 18 CPEs, including a type of carbapenemase (KPC) never detected before in the region. The results, published in February 2023 in the journal *Antibiotics*, demonstrate the applicability of this technique, even in resource-limited settings. The study was conducted as part of the ARCANE project, supported by various institutional partners, including the Government of New Caledonia.  
<https://bit.ly/3WauVx5>



ID CARD

TEHRAN  
Iran



**Year of establishment:** 1920

**Type:** Public Institution

**Address:** No. 69, Pasteur Avenue, Tehran, Iran, Islamic Republic of Iran

**Website:**  
<https://en.pasteur.ac.ir/>

**Areas of expertise:**  
Virology, Bacteriology, Biochemistry, Biotechnology, Nanotechnology, Tissue engineering, Clinical research, Epidemiology, Immunology, Parasitology, Mycology, Genetics and molecular medicine, Rabies, Plague, Malaria, Arbovirus, Vaccines

The Pasteur Institute of Iran is one of the oldest public health and research centers in the Middle East. Its mission is to support advanced research and offer programs in the medical sciences with a special focus on infectious diseases.

**MAY 2023**  
**Efficacy and safety of PastroCovac vaccine; a randomized clinical trial**

A Phase III study to evaluate the safety and immunogenicity of a protein-based SARS-CoV-2 vaccine, the Soberana/PastroCovac vaccine against COVID-19, has been published in the JAMA Network Open Journal. Finlay Institute in Cuba developed the Soberana2 vaccine, which was then produced at the Pasteur Institute of Iran as PastroCovac after successful technology transfer. Eight papers featuring both Iranian and Cuban authors were among more than 20 papers published on the development and clinical studies of Soberana (PastroCovac) vaccines.  
<https://bit.ly/4cE2JYK>



**APRIL 2023**  
**Staff from the Pasteur Institute of Iran in the Stanford University World's Top 2% Scientists ranking**

Stanford University has released an update of the list of the top 2% most widely cited scientists in various disciplines. This ranking, considered the most reputable worldwide, is based on the bibliometric information contained in the Scopus database. According to the database, which covers papers published from 1996 to 2022, 5 current academic staff from the Pasteur Institute of Iran, including Dr Azam Bolhassani, Dr. Parvaneh Mehrbod, Dr. Mohammad Ali Shokrgozar, Dr. Mehdi Farrokhi, and Dr. Ehsan Mostafavi are among the top 2% scientists.  
<https://bit.ly/3zqVAFt>

**SEPTEMBER 2023**  
**The Pasteur Institute of Iran achieved the top grade in the World Health Organization's evaluation program for detecting monkeypox**

In 2023, the Pasteur Institute of Iran's Laboratory of Rapid Response Team achieved a 100% accuracy rate in diagnosing monkeypox, showcasing its global quality and credibility. The team, established in 2015, swiftly detects infectious disease outbreaks and has been instrumental in responding to COVID-19 and other outbreaks. Additionally, they have aided in implementing a syndromic surveillance system for infectious diseases in Iran, enabling the investigation and diagnosis of various infectious diseases.  
<https://bit.ly/4fttkdh>



**DECEMBER 2023**  
**Organization of an international course on outbreak investigation**

The Pasteur Institute of Iran, in collaboration with the Standing Committee for Scientific and Technological Cooperation (COMSTech), organized a training course in Pakistan on "Outbreak Investigation and Control of Infectious Diseases" for over 150 participants from 13 countries. The course covered key topics such as outbreak planning, identification, environmental and laboratory assessments, data management, biosafety measures, risk assessment, ethics, and documentation.  
<https://bit.ly/3xK005Z>

AND ALSO

- ▶ **The national reference laboratory for arboviruses and viral hemorrhagic fevers, a leader in diagnosis in the country and region.**
- ▶ **A faculty member from the Pasteur Institute of Iran took part in the technical advisory group meeting of the World Health Organization.**

## INSTITUT PASTEUR KOREA

The Institut Pasteur Korea is home to multinational researchers from over 10 countries. They strive to address global public health issues by implementing three pivotal strategies: accelerating therapeutic development, fortifying vaccine R&D, and acquiring advanced capabilities for rapid diagnostics.



**JUNE 2023**

### Novel SARS-CoV-2 entry inhibitors show potency as SARS-CoV-2 antivirals

A study involving researchers from the Institut Pasteur Korea demonstrated that three candidate drugs, novel SARS-CoV-2 entry inhibitors, 2-anilinoquinazolin-4(3H)-one derivatives designed and synthesized in a previous study improved survival rate and reduced the viral load of the lung in a human ACE2 transgenic mouse model. This study, published in the *Journal of Medical Virology*, suggests that 2-anilinoquinazolin-4(3H)-one derivatives are promising as potential oral antiviral drug candidates against SARS-CoV-2 infection. <https://bit.ly/4eMTJ5r>



**JULY 2023**

### Knife's edge: Balancing immunogenicity and reactogenicity in mRNA vaccines

Institut Pasteur Korea contributed to a review article in *Experimental & Molecular Medicine*, which provides an overview and mechanistic insights into immune responses and adverse effects documented primarily for COVID-19 mRNA vaccines. Furthermore, it discusses the perspectives of this promising vaccine platform and the challenges in balancing immunogenicity and adverse effects. Still, considering the immense potential of mRNA vaccines in mitigating human disease, significant efforts in clarifying all aspects of this exciting new technology are warranted and needed. <https://bit.ly/4cF3PUg>



**AUGUST 2023**

### Institut Pasteur Korea launched S. Korea's first Global Infectious Disease Specimen Bank (GISB)



Institut Pasteur Korea officially launched the global human materials biobank, which specializes in collecting and distributing infectious disease specimens, in August. It has been licensed as a human materials biobank that legally secures and promptly distributes samples from domestic and foreign infectious disease patients, which are required for rapid response to emerging infectious diseases and post-COVID-19 research in the private sector. The establishment and approval of the human materials biobank were implemented through the 'Virus Research Resource Center Establishment Project' as part of the institute's new Research Resource Center.

### ID CARD



**Year of establishment:** 2004

**Type:** Non-profit institution

**Address:** 16, Daewangpangyo-ro712beongil, Bundang-gu, Seongnam-si, Gyeonggi-do, Seongnam, 13488, Republic of Korea

**Website:**  
<https://www.ip-korea.org/>

**Areas of expertise:**  
Biomedical research, Therapeutics, Vaccine & Immunology, Virology, mRNA technologies, Diagnostics, Bioinformatics, Medicinal chemistry



**NOVEMBER 2023**

### Institut Pasteur Korea discussed 'International Collaborations for Climate Change-Sensitive Infectious Diseases' with global experts

Institut Pasteur Korea held an international symposium on the theme 'Fighting Infectious Diseases Sensitive to Climate Change' on November 30. The symposium illustrated how climate change is fueling the spread of infectious diseases and aggravating many other health problems. It assessed the predicted displacement of a growing number of people, animals, and infectious diseases due to the increase in the frequency and intensity of disasters associated with climate change.

### ID CARD



**Year of establishment:** 2007

**Type:** Public Institution

**Address:** Ban Kao-Gnot, Sisattanak district, Vientiane, Lao People's Democratic Republic

**Website:**  
<https://www.pasteur.la/>

**Areas of expertise:**  
Entomology, Parasitology, Vaccine preventable diseases, Emerging viruses, Pathogen discovery, Medical virology



**MAY 2023**

### Impact of precipitation on the prevalence of schistosomiasis mekongi in Lao PDR

Using epidemiological data on the prevalence of human schistosomiasis mekongi and Earth observation satellite data, the study identified three significant factors independently associated with schistosomiasis such as mass drug administration, total precipitation per year, and precipitation during the dry season. <https://bit.ly/3W9r5UK>

**60,000**

The number of people living in *Schistosoma mekongi* endemic areas

## INSTITUT PASTEUR DU LAOS

The Institut Pasteur du Laos is engaged in research and training, education and capacity building. It also provides technical diagnostic assistance to the National Center for Laboratory and Epidemiology for arbovirus outbreak monitoring and SARS-CoV-2 genomic surveillance.



**JANUARY 2023**

### Longitudinal survey of dengue virus serotype circulation in Laos

A six-year longitudinal study was conducted by researchers from the Institut Pasteur du Laos and the Institut Pasteur (Paris) to decipher dengue epidemiology in a country where all four dengue virus serotypes circulate. The phylogenetic analysis of the gene coding for the envelope of the virus strains detected during the period illustrated the complex dynamics of transmission of dengue virus in Laos. <https://doi.org/10.3390/microorganisms11020243>



**JUNE 2023**

### Deforestation inhibits malaria transmission in Lao PDR

By combining data on malaria distribution and satellite data on forested areas, land surface temperatures and precipitations, it appeared that malaria incidence was increasing when the percentage of forested land also increased. This suggests that malaria in Laos is mainly forest malaria transmitted by *Anopheles dirus* which should drive specific preventive measures. <https://bit.ly/4cR9fLT>

## INSTITUT PASTEUR IN HO CHI MINH CITY

### ID CARD



HO CHI MINH CITY  
Viet Nam

**Year of establishment:** 1891

**Type:** Public Institution

**Address:** 167 Pasteur street, Ward Vo Thi Sau, District 3, Ho Chi Minh City, Viet Nam

**Website:**  
<http://www.pasteurhcm.gov.vn/>

**Areas of expertise:**  
Virology, Bacteriology and antimicrobial resistance, Diagnostics, Immunology, Molecular and developmental biology, Vaccination

The Institut Pasteur in Hô Chi Minh City is dedicated to the study of science and public health through its national and international cooperation strategies. As a specialized medical center, it is a leader in preventive medicine in the southern region of Viet Nam.

#### APRIL 2023

**Reduced-dose PCV schedules significantly lower pneumococcal carriage in infants: randomized trial results in Hô Chi Minh City, Viet Nam**

A 1+1 pneumococcal vaccine (PCV) schedule significantly reduces vaccine-type carriage and will likely generate substantial herd protection and provide some degree of individual protection during the first year of life. Such a schedule is suitable for mature PCV programs or for introduction in conjunction with a comprehensive catch-up campaign and potentially could be most effective given as a mixed regimen (PCV10 then PCV13). A 0+1 PCV schedule affects carriage along with a reasonable immune response and could be considered for use in humanitarian crises or remote settings.

<https://bit.ly/4chYBy7>

#### MAY 2023

**Childhood bacterial meningitis surveillance in Southern Viet Nam: trends and vaccination implications**

From 2012 to 2021, cerebrospinal fluid samples were collected from children under five years of age with suspected bacterial meningitis at two children's hospitals in Hô Chi Minh City to test for *Streptococcus pneumoniae*, *Haemophilus influenzae*, or *Neisseria meningitidis*. *Streptococcus pneumoniae* is the most frequent causative agent of bacterial meningitis in children under five years of age in Southern Viet Nam over the last decade. Policymakers may need to consider introducing PCVs into the EPI to effectively prevent and control bacterial meningitis. <https://bit.ly/48YoHmZ>

#### JULY 2023

**Establishment of Wolbachia-carrying *Aedes aegypti* in two release sites in My Tho city, Tien Giang province and Thu Dau Mot city, Binh Duong province funded by Monash University (Australia)**



Dengue is highly endemic in Viet Nam. This collaborative project on Dengue between the Institut Pasteur in Hô Chi Minh City and Action on Poverty Viet Nam has three stages: preparation, release and monitoring. In the preparation phase, traps are deployed in the release areas to identify the mosquito profile. A community profile is also conducted to assist in achieving strong community awareness and support for the project. <https://bit.ly/4cRc5R7>

#### OCTOBER 2023

**Sexually transmitted nongroupable *Neisseria meningitidis*-associated urethritis, Viet Nam**

Scientists reported on an outbreak of nongroupable *Neisseria meningitidis*-associated urethritis, primarily among men who have sex with men in southern Viet Nam. Nearly 50% of *N. meningitidis* isolates were resistant to ciprofloxacin. This emerging pathogen should be considered in the differential diagnosis and management of urethritis. This is the first report of *Neisseria meningitidis*-associated urethritis in Asia. <https://bit.ly/49bEhMl>

#### DECEMBER 2023

**Interactions between climate change, urban infrastructure and mobility are driving dengue emergence in Viet Nam**

Researchers investigated the drivers of dengue incidence and emergence in Viet Nam, through an analysis of 23 years of district-level case data spanning a period of significant socioeconomic change (1998-2020). Their findings challenge the assumption that dengue is an urban disease, instead suggesting that incidence peaks in transitional landscapes with intermediate infrastructure provision and provide evidence that interactions between recent climate change and mobility are contributing to dengue's expansion throughout Viet Nam. <https://bit.ly/3WIZK1e>

## PASTEUR INSTITUTE IN NHA TRANG

### ID CARD



NHA TRANG  
Viet Nam

**Year of establishment:** 1895

**Type:** Public Institution

**Address:** 06-08-10 Tran Phu Street, Nha Trang City, Khanh Hoa province, Viet Nam

**Website:**  
<http://ipn.org.vn/>

**Areas of expertise:**  
Infectious diseases, Non-communicable diseases, Food hygiene, Environmental and occupational health, Microbiology, Immunology, Medical services, Scientific research and training, International cooperation, Clinical trial

The role of the Pasteur Institute in Nha Trang is to organize and implement activities and targeted programs in the field of public health and preventive medicine in 11 central provinces from Quang Binh to Binh Thuan, Viet Nam.

#### NOVEMBER 2023

**Novel intranasal spray COVID-19 vaccine**

The live-attenuated influenza virus vector-based intranasal SARS-CoV-2 vaccine confers long-lasting and broad protection in animal models and is, to our knowledge, the first COVID-19 mucosal vaccine to enter human trials. A multicenter, randomized, double-blind, placebo-controlled, adaptive design phase 3 trial was conducted at 33 sites in 4 countries. The Pasteur Institute in Nha Trang, the only representative from Viet Nam in this trial, has recruited more than 3,800 subjects from 5 sites, with a study completion rate of 95%. <https://bit.ly/4bpWUNu>



#### DECEMBER 2023

**Dengue prophylaxis drug in Phase II**

Although dengue is one of the major public health burdens in Viet Nam, currently there is no effective prevention or treatment available. The Pasteur Institute in Nha Trang is taking part in "A Phase 2, Randomized, Double-blind, Placebo-controlled, Double-dummy, Multicenter Trial Assessing the Efficacy and Safety of Two Dose Regimens of JNJ-64281802 for the Prevention of Dengue Infection," in which 10 countries are participating. Recruitment at the Pasteur Institute in Nha Trang is scheduled to start in late 2024. <https://classic.clinicaltrials.gov/ct2/show/NCT05201794>

### AND ALSO

- ▶ Association between parental absence during childhood and metabolic syndrome during adulthood: a cross-sectional study in rural.
- ▶ Interactions between climate change, urban infrastructure and mobility are driving dengue emergence in Viet Nam.
- ▶ Spatiotemporal evolution of SARS-CoV-2 Alpha and Delta variants during large nationwide outbreak.
- ▶ Full list of 2023 publications.

#### SEPTEMBER 2023

**The 160th birthday anniversary of Dr. Alexandre Yersin and the 128th establishment anniversary of Pasteur Institute in Nha Trang**



On September 22, 2023, the Pasteur Institute in Nha Trang celebrated the 160th birthday anniversary of Dr. Alexandre Yersin (1863-1943) and the 128th establishment anniversary of the Pasteur Institute in Nha Trang (1895-2023). The event also featured the photo exhibition "The Lives and Careers of Louis Pasteur and Alexandre Yersin," made possible through the support of the Institut Pasteur in Paris and the French Embassy in Viet Nam. <https://bit.ly/3zCKPaw>

The National Institute of Hygiene and Epidemiology (NIHE) works in the fields of preventive medicine, disease control, scientific research, training, international cooperation and population services.



**OCTOBER 2023**

## Memorandum of Understanding signing ceremony between the National Institute of Hygiene and Epidemiology and the National Institute of Infectious Diseases under the Korea National Institute of Health

According to the Memorandum of Cooperation, the NIHE and the National Institute of Infectious Diseases of Korea will implement cooperation in fields including infectious diseases, immunology research; research, exchange, and use of pathogen sources; organization of joint symposiums and seminars on infectious diseases and immunological concepts; collection, management, access and exchange of information; research staff exchanges and training program support.

<https://bit.ly/3xHTeCe>



**NOVEMBER 2023**

## NIHE received biological products for diphtheria investigation and surveillance donated by the US CDC

In Viet Nam, the vaccination rate of four doses of diphtheria-containing vaccine for children under two years old has reached 80-90% on a national scale over the past five years. From the beginning of 2023 until November, the country recorded nearly 50 cases of diphtheria, resulting in three deaths. Following directions from the Ministry of Health, the NIHE has been assigned to receive biological products for testing to detect toxin genes of diphtheria bacteria using the real-time PCR technique. The Institute has closely coordinated with the US CDC and the Departments of the Ministry of Health to receive these donated biological products, enabling transfer and support for provinces in diagnosing and managing outbreaks promptly.

<https://bit.ly/3VUexPR>

## ID CARD



**Year of establishment:** 1925

**Type:** Public Institution

**Address:** 1-Yersin, Hanoi, Viet Nam

**Website:** <https://nihe.org.vn/>

**Areas of expertise:**

Community health, Bacteriology, Biosafety, Immunology, Molecular biology, Medical entomology, Virology



**OCTOBER 2023**

## E-DENGUE: a user-friendly digital prediction tool for dengue prevention in Viet Nam

Funded by Wellcome, the E-Dengue project will create a digital dengue early warning system (EWS) that is based on a prediction model to help local communities and health centers mitigate outbreaks of the mosquito-borne disease in the Mekong Delta Region (MDR). To officially implement this project in Viet Nam, the NIHE, together with the University of Queensland, Australia, organized a project implementation conference at the Central Institute of Hygiene and Epidemiology.

<https://bit.ly/3XP85Mo>

<https://bit.ly/4eRPaXk>

**43**

The number of PhD student recruitments announced in 2023

## Essential global partnerships to address pressing issues in science

As a key player in global health, the Pasteur Network actively nurtures partnerships with institutions and funders to fulfill its commitment to science, public health, innovation, and training. Through the collective efforts of its members and the support of its partners, the network aims to develop global solutions to combat the emergence and reemergence of infectious diseases, especially in the context of a climate crisis.



**JUNE 2023**

## First convening with the Rockefeller Foundation and collaborations with the HKJC Institute of Philanthropy in climate and health

The Pasteur Network has strengthened its collaboration with the Rockefeller Foundation since signing an MoU in 2022, exploring opportunities to address the impacts of climate change on human health, particularly the rise of climate-sensitive infectious diseases. A three-day convening, "Climate Sensitive Disease: Adapting Early Warning to a Changing Environment," was held in Paris from June 13 to 15, 2023. Supported by the Rockefeller Foundation, Pasteur Network members, and with representatives from PAHO, the Barcelona Supercomputing Center, the Pune Knowledge Cluster, Grand Challenges Canada, developed a vision and roadmap for an Early Warning System to enhance outbreak preparedness and response to climate-sensitive infectious diseases. Later in the year, the HKJC Institute of Philanthropy joined the discussions to support future initiatives, such as a Climate-Health Accelerator program under the strategic pillar "Epidemic Preparedness and Intelligence with a focus on Climate-sensitive diseases."

**OCTOBER – DECEMBER 2023**

## Pasteur Network joins the Grand Challenges network of partners

At the Bill & Melinda Gates Foundation's #GrandChallenges Annual Meeting in Dakar, Senegal, the Request For Proposals "Catalyzing Equitable Artificial Intelligence (AI) Use to Improve Global Health" was launched, supported by the Pasteur Network. This initiative enables LMICs to lead in designing AI solutions to improve community health. The second call for proposals, announced at COP28 in Dubai, focuses on "Accelerating Innovations Mitigating Climate Change Impact on Health, Agriculture & Gender," marking a significant step towards a healthier, more resilient future.

More about AI RFP: <https://bit.ly/4eSZZbJ>

Climate RFP: <https://bit.ly/3LebD3v>

**OCTOBER 2023**

## GeoSeq Foundation partnership for global pathogen monitoring

The GeoSeq Foundation supports the Pasteur Network's 32 institutes across 25 countries to pioneer a new era of pathogen monitoring and response. Utilizing Biotia's GeoSeq AI platform, which integrates climate, genomics, and public health data, this partnership fosters equitable data sharing, cross-entity discovery, and advanced pathogen tracking, driving predictive models to identify emerging threats.

<https://bit.ly/3V0mh5T>

**NOVEMBER 2023**

## Reinvigorating the Pasteur Network Annual Meeting with support from Wellcome

Over 150 participants convened in Tunis for three days of in-depth discussions and collaboration, aligning with the Pasteur Network's strategic pillars (see page 8-9 and 52). The meeting, hosted by the Institut Pasteur de Tunis and supported by Wellcome, underscored the network's commitment to advancing its mission through robust partnerships and shared knowledge.



ALL ABOUT THE MEMBERS  
OF THE PASTEUR NETWORK:  
[pasteur-network.org/en/members/](https://pasteur-network.org/en/members/)

# EURO-MEDITERRANEAN

The Euro-Mediterranean region of the Pasteur Network is composed of 10 members united around the early detection of potentially global health threats. They monitor infectious, physical, chemical and biological risks to population health and work to safeguard human and animal health.

## Board members



**Christian Léonard**

Sciensano

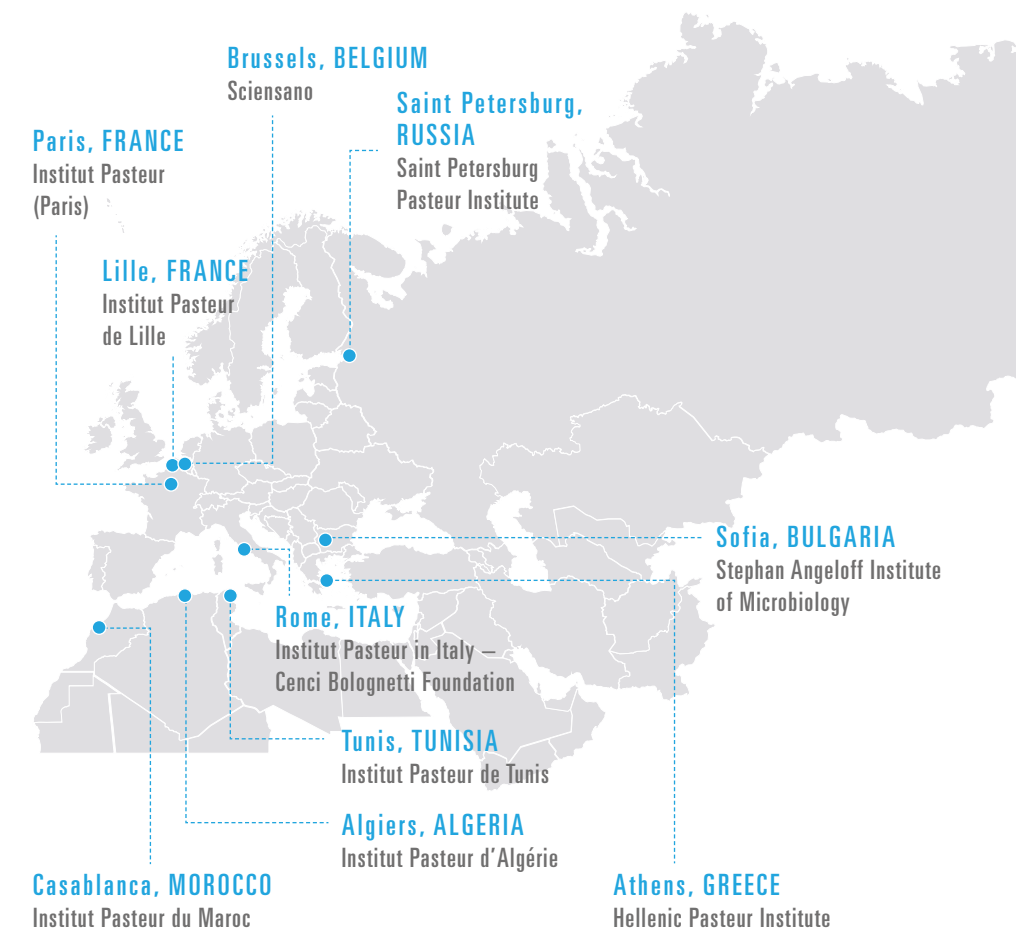


**Abderrahmane Maaroufi**

Institut Pasteur du Maroc since 2024

**Hechmi Louzir**

Institut Pasteur de Tunis in 2023



**10**

members



**7**

WHO Collaborating Centres

► Bacterial meningitis, Human African Trypanosomiasis Biobank, Listeria, Plague control and research, Rabies, Research on the epidemiology and macroevolution of polioviruses and non-polio enteroviruses, Salmonella (Institut Pasteur)

The mission of the Institut Pasteur d'Algérie is to identify infectious, parasitic and immune disorders, and to develop methods and tools to prevent, diagnose and treat them. It also carries out missions of expertise and training, and produces vaccines and serums.

## AUGUST 2023

### International training on genomic sequencing of influenza and SARS-CoV-2 viruses

IPA co-organized theoretical and practical training with the support of the World Health Organization (WHO), the U.S. Center for Disease Control and Prevention (CDC-Atlanta), and the Association of Public Health Laboratories (APHL). Participants from eleven African countries (Algeria, Burkina Faso, Côte d'Ivoire, Central African Republic, Democratic Republic of Congo, Madagascar, Mali, Mauritania, Niger, Senegal, and Togo) took part in a 5-day program focused on enhancing capacity in next-generation sequencing of influenza and SARS-CoV-2 viruses. <https://bit.ly/3RQXuW7>

## OCTOBER 2023

### Training for laboratory professionals in the Democratic Republic of Congo (DRC) on antibiotic susceptibility testing and interpretation

The 6-day training course, organized in collaboration with the WHO Regional Office for Africa, was provided by experts from the Institut Pasteur d'Algérie, which has been identified as a hub to strengthen resistance surveillance networks in the region.



Trainees acquired theoretical and practical technical knowledge designed to empower them in decision-making processes. <https://bit.ly/3VQfPLx>

## NOVEMBER 2023

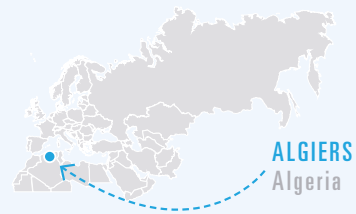
### International training in bioinformatics for the interpretation of poliovirus sequencing data

As part of its collaboration with the WHO Regional Office for Africa, the Institut Pasteur d'Algérie was selected to host an international training course for laboratory staff from seven countries in the African Region. The 5-day program provided an

opportunity for participants to learn how to construct useful sequences for genetic characterization from sequencing data, ensure the good quality of the sequences obtained, and establish the genetic link between different isolates. They also learned about the genetic specificities of the new oral polio vaccine, and the different approaches used to generate complete poliovirus sequences. <https://bit.ly/3zyDUim>



## ID CARD



**Year of establishment:** 1894

**Type:** Public Institution

**Address:** 1, Route du Petit Staoueli Dely Ibrahim, Algiers, Algeria

**Website:** <https://www.pasteur.dz/fr/>

**Areas of expertise:**

Immunology, Bacteriology, Biochemistry, Microbiology, Parasitology, Virology, Control of biological products, Preventive medicine

## DECEMBER 2023

### Development of an oncogenetics laboratory for lung cancer diagnosis

IPA is a key partner of the "PerMediNA" project, an international consortium for precision medicine and oncology in North Africa coordinated by the Institut Pasteur de Tunis with the Institut Pasteur (Paris). This initiative brings together four members of the Pasteur Network in North Africa and the Institut Pasteur in Paris, as well as other leading institutions in the field of cancer, such as Institut Gustave Roussy and Institut de Cancérologie de l'Ouest. In this context, IPA has begun developing an oncogenetics laboratory for lung cancer diagnosis at its Sidi Fredj annex and is preparing to host the 1st "PerMediNA Algeria" Thematic Days, scheduled in January 2024, with experts in oncology, radiology, biology, pathology and health economics.

## AND ALSO

► Institut Pasteur d'Algérie course on Geographic Information Systems (GIS) accepted for funding by the Pasteur Network.

Applied science and health are central to Sciensano's mission, with 937 staff members dedicated to improving both human and animal health. Sciensano's strength lies in its unique holistic, multidisciplinary approach to health, namely "One Health".

## FEBRUARY 2023

### Sciensano coordinates the BEST-COST project: burden of disease-based methods for estimating the socio-economic cost of environmental stressors

Climate change constitutes an imminent threat to Europe, with environmental stressors such as air pollution and noise affecting health and causing disease. To enhance the well-being of future generations, European countries must prioritize appropriate policies. To address this need, Sciensano is developing a framework within the EU-funded BEST-COST project. It consists of different open-access tools that estimate the burden of disease, socio-economic cost, and social inequalities with respect to environmental stressors. <https://best-cost.eu/>

## SEPTEMBER 2023

### Sciensano organized the symposium untitled "Strengthening together Belgium's efforts against cancer: from concept to reality"

The 'Belgian EBCP Mirror Group' is a large national stakeholder platform coordinated by Sciensano. This initiative supports 'Europe's Beating Cancer Plan' by aligning the needs of cancer patients in Belgium with potential interventions and projects at national and EU levels. In September 2023, the group held its inaugural symposium titled "Strengthening together Belgium's efforts against cancer: from concept to reality" convening policymakers, healthcare professionals, researchers and patient associations. <https://www.beatingcancer.be/about/>

## NOVEMBER 2023

### PREZODE Belgium: Belgian One World, One Health Vision for Preventing the Emergence of Zoonotic Diseases

Belgium joined the PREZODE initiative (PREventing ZOonotic Disease Emergence) in 2021, and established a dedicated One Health expert group at national level. The FPS Health, Food Chain Safety and Environment and Sciensano are leading these activities, with support from the Belgian Biodiversity Platform. In 2023, policy recommendations under the One World, One Health Vision were developed for the national context. This involved experts in public health, animal health, food safety, plant health, and the environment. <https://www.biodiversity.be/6011/>



## DECEMBER 2023

### TEMPUR project: advice on preventive measures to face heatwaves

Sciensano started a new project (TEMPUR) in collaboration with 2 Belgian universities (VUB and UCLouvain) to study the health effects of heat. Building on the experience gained from the HEASP project (2017-2021), where individual factors that modify the association between mortality and heat were identified, TEMPUR aims to provide detailed estimates of climate change-related excess mortality attributed to temperature. These estimates will consider various future climate and population projections for Belgium. <https://bit.ly/3WbgLvB> <https://bit.ly/4eThTLu>

## ID CARD



**Year of establishment:** 1900

**Type:** Public Institution

**Address:** Rue Juliette Wytsmanstraat 14, Brussels, Belgium

**Website:** <https://www.sciensano.be/en>

**Areas of expertise:**

Biological health risk, Quality control, Infectious agents for humans & animals, Chemical health risk, Physical health risk, Health data, Public health, Health systems, Scientific support during health crises

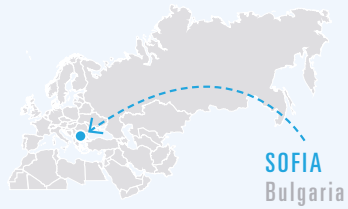
## AND ALSO

► Association between temperature and natural mortality in Belgium: Effect modification by individual characteristics and residential environment.

## 10

Number of strategic objectives for the institute according to the management plan, namely: health status (1), surveillance and crisis (2), experimental development (3), efficient management of the research program (4), national and international collaborations (5), independence and transparency (6), data management (7), personnel management (8), quality (9) and ICT (10)

ID CARD



SOFIA  
Bulgaria

**Year of establishment:** 1947

**Type:** Public Institution

**Address:** 26, rue Georgi Bonchev, Sofia, Bulgaria

**Website:** <https://microbio.bas.bg/>

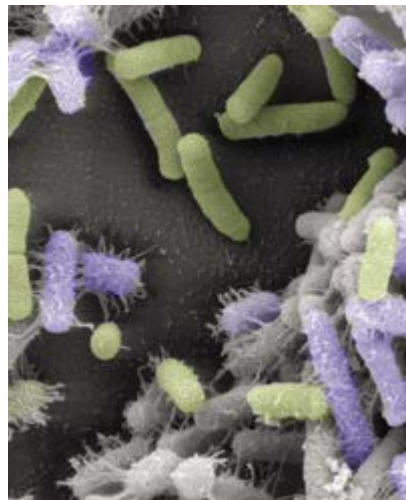
**Areas of expertise:**

Biotechnology, Microbiology, Immunology, Mycology, Virology, Molecular biology, Biochemistry, Genetics

**APRIL 2023**

**Polymeric micelles for inhibition of bacterial biofilms**

Researchers have characterized the potential of mixed polymeric micelles to detach pre-formed bacterial biofilms and significantly reduce their biomass by suppressing bacterial metabolic activity. The polymeric micelles demonstrated successful drug delivery and release, showing promise as an antibacterial tool for inhibiting infections after surface skin injury. <https://bit.ly/3RYowm3>

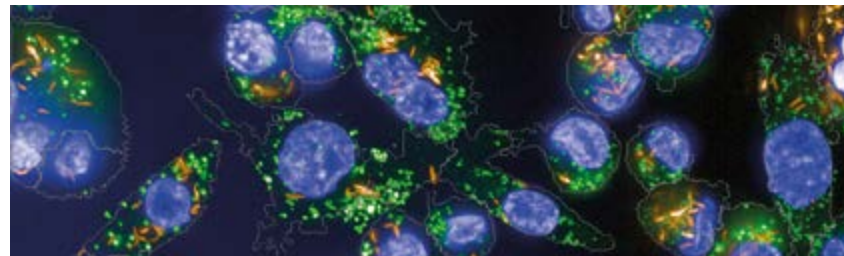


**The Stefan Angeloff Institute of Microbiology is a national research center for microbiological science.** Its research primarily focuses on public health and biotechnology, and it also provides teaching and doctoral training.

**FEBRUARY 2023**

**First insights into the diversity of bovine tuberculosis pathogens**

Scientists from the institute successfully assessed the diversity of minisatellite VNTR loci in *Mycobacterium bovis*/*M. caprae* isolates in Bulgaria and viewed their position within global *M. bovis* diversity. This important study will further understanding of the conditions surrounding Bovine tuberculosis (bTB), a significant zoonotic disease caused by either *Mycobacterium bovis* or *M. caprae*, which poses a serious burden on global livestock production. DOI: <https://bit.ly/3XW9AZm>



**MARCH 2023**

**Evaluating new natural compounds to target obesity**

Researchers at the Laboratory of Metabolomics have characterized novel plant-derived metabolites targeting signaling pathways in obesity. The complex pathophysiology of obesity

involves multiple signaling pathways that influence energy metabolism in different tissues. The phosphatidylinositol 3-kinases (PI3K)/protein kinase B (AKT) pathway participates in the regulation of diverse physiological processes. Its druggability and anti-obesity potential are evaluated in this study. <https://bit.ly/3RZej8Q>

**JULY 2023**

**Developing new broad-spectrum biopesticides**

Researchers from various laboratories within the Department of General Microbiology have characterized the insecticidal activity of *Bacillus thuringiensis* strains. They identified genes encoding 12 different crystal (Cry) endotoxins in the *B. thuringiensis* strain and detailed the strain-specific crystal morphology of spores and toxins. This unique combination could potentially enable simultaneous pesticidal action against pest species from orders Lepidoptera, Coleoptera, Diptera, and Hemiptera, as well as class Gastropoda. <https://bit.ly/3XV5aSr>

**AND ALSO**

- ▶ **Bulgarian yogurt for astronauts' performance on Mars.**
- ▶ **Science for Business event has the institute's scientists showcasing their latest developments.**
- ▶ **31st Bulgarian Antarctic Expedition to Livingston Island to track the biodiversity of yeasts.**
- ▶ **Nikola Ralchev receives the Ivan Evstratiev Geshov award from the Bulgarian Academy of Sciences for achievements in the field of Biomedicine and Health.**

ID CARD



PARIS  
France

**Year of establishment:** 1887

**Type:** Private non-profit foundation

**Address:** 25-28 rue Docteur-Roux, 75015 Paris, France

**Website:** <http://www.pasteur.fr/en>

**Areas of expertise:**

Cellular, Computational and developmental biology, Genetics, Immunology, Microbiology, Mycology, Neuroscience, Virology

**The Institut Pasteur is a non-profit foundation whose mission is to help prevent and treat diseases,** primarily infectious diseases, through research, innovation, education, and public health initiatives.



**FEBRUARY 2023**

**A Europe-scale project on emerging diseases**

With increasing infectious disease epidemics, a strong network of world-class basic and translational research institutes is needed to respond to health threats. The DURABLE project is a unique consortium of European research and public health laboratories which will help to build stronger, more resilient and more accessible health systems. DURABLE is coordinated by Dr. Jean-Claude Manuguerra (Institut Pasteur) with Professor Marion Koopmans (Erasmus Medical Center, the Netherlands) and Roberto Bruzzone (HKU-Pasteur Research Pole). The project will establish a sustainable network of laboratories and research institutes that can address the barriers of better preparedness, and provide alerts, real-time scientific data and integrated analyses to European authorities, such as HERA and ECDC. <https://bit.ly/4eR4N1q>

**MAY 2023**

**The first European institute dedicated to hearing health**

Launched in May 2023 and initiated by the Hearing Institute, an Institut Pasteur center, the IHU (Institut Hospitalo-Universitaire) reConnect will bring together the key players involved in hearing health and speech deficiency. ReConnect is designed to improve the detection and management of hearing and speech disorders, aiming to move from compensatory to reparative medicine over the next decade by leveraging 20 years of scientific discoveries

in genetics and neuroscience. The other IHU founding members are the Fondation Pour l'Audition, AP-HP, Université Paris Cité and Inserm. <https://bit.ly/3XPBSof>



**DECEMBER 2023**

**Improving gender equality and excellence in research**

As part of its commitment to gender equality in the workplace, the Institut Pasteur has adopted a Gender Equality Plan (GEP) to enhance its policy regarding equality, diversity, and inclusion. The Institut also gained recognition from the European Commission in December with the HR Excellence in Research Award and has embarked on a process of continuous improvement regarding recruitment and working conditions for scientists, while strengthening its attractiveness at the international level.

**AND ALSO**

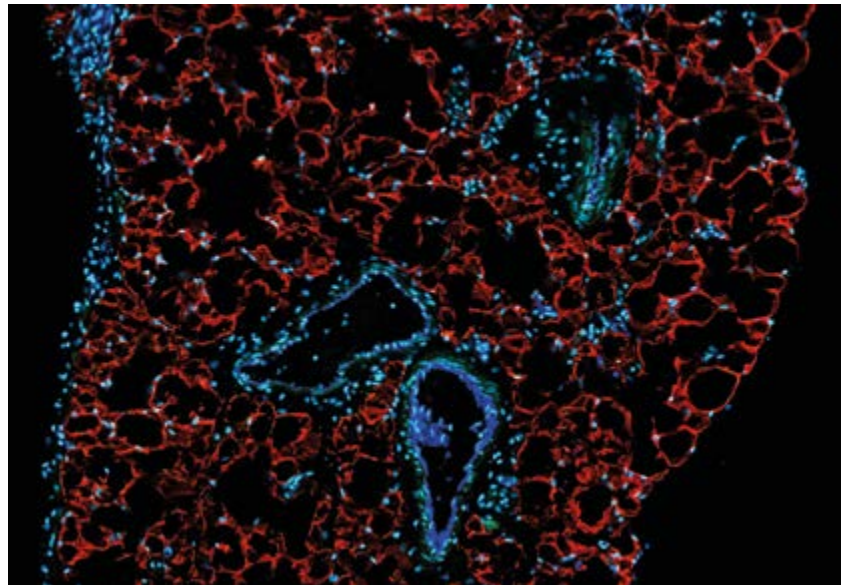
- ▶ **The Geneva Patient (HIV): 20 months' remission after a bone marrow transplant.**
- ▶ **The SARA project: strategies for combating antibiotic resistance in 6 African countries.**
- ▶ **The ATLAS antimicrobial resistance surveillance database.**
- ▶ **Paleogenomics helps retrace 10,000 years of human immune system evolution.**
- ▶ **Signature of the articles of association to establish the Institut Pasteur de São Paulo.**
- ▶ **First Institut Pasteur International Cancer Conference.**

**40** years since the discovery of HIV/AIDS

**71** French departments put on red alert for the *Aedes albopictus* mosquito



For more than 120 years, the Institut Pasteur de Lille has been dedicated to combating disease through research into pathogens, the study of neurodegenerative disorders and disease prevention.



## MARCH 2023 FXR receptor, a new factor in obesity development

Scientists from the Institut Pasteur de Lille, in collaboration with Lille-based and international teams, used a preclinical model to reveal the role of the FXR nuclear receptor expressed in adipose tissue in obesity development. The FXR receptor controls development of inflammation and oxidative stress in adipose tissue, contributing to an increase in whole-body insulin resistance. The results shed light on obesity development and identify FXR as a potential therapeutic target in treating it.  
<https://bit.ly/3RWJ11e>

## IN 2023 Preventing diabetes in people affected by economic hardship



The PrevenDIAB project, launched in January 2022, recruited more than 2,000 people for a clinical trial. Participants were given a comprehensive health check examining clinical, biological and behavioral factors. The immediate aim is to provide them with a coordinated care plan organized by their family physician. The extensive data gathered will help scientists understand the risk factors behind diabetes and identify early markers for diabetes development. The long-term goal is to demonstrate the impact of this public health initiative so that it can be rolled out in clinics across France and benefit as many people as possible.  
<https://bit.ly/4cNVzBh>  
<https://bit.ly/4cB91c8>

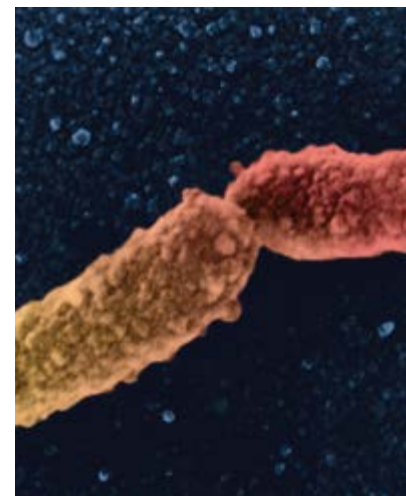
## ID CARD



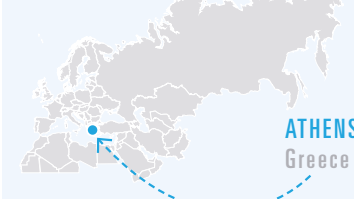
**Year of establishment:** 1894  
**Type:** Private non-profit foundation  
**Address:** 1, Rue du Professeur Calmette, BP245, 59019 Lille, France  
**Website:** <https://www.pasteur-lille.fr/en/>  
**Areas of expertise:** Immunity, Microbiology, Cancer, Environment and human health, Genetic toxicology, (Epi)genomics, Aging, Diabetes

## MARCH 2023 An intranasal live attenuated vaccine for whooping cough

A new nasal vaccine for whooping cough, named BPZE1, has proven effective in preclinical models and safe in Phase I clinical trials. In a Phase II clinical trial published in *The Lancet*, scientists working as part of a large international academic and private collaboration demonstrated the efficacy and safety of the new whooping cough vaccine in adults. <https://bit.ly/4f3weoW>



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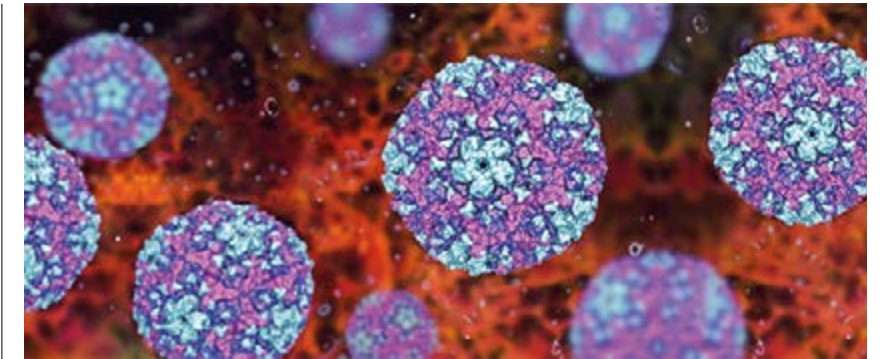
**Year of establishment:** 1919  
**Type:** Private non-profit foundation  
**Address:** 127 Vasilissis Sofias Avenue, 11521 Athens, Greece  
**Website:** <https://www.pasteur.gr/en/>  
**Areas of expertise:** Immunology, Microbiology, Neurobiology, Translational research, Innovation, Bioinformatics and applied genomics



## AND ALSO

- ▶ **Design a Multi-Epitope Nanovaccine against Leishmania Parasite.**
- ▶ **The strength of the liposomal vaccine.**
- ▶ **Dengue virus-caused inhibition of autophagy completion.**
- ▶ **LSD1 regulates the outcome of Hepatitis C Viral Infection.**
- ▶ **The Vasculature of the Mouse Brain Cortex.**
- ▶ **Brain Infection by Group B Streptococcus.**
- ▶ **Expanding target-based miRNA functional analysis.**

The Hellenic Pasteur Institute aims to improve disease prevention and treatment through basic research, education and public health services, with a particular focus on infectious, autoimmune and neurodegenerative diseases.



## 2023 Hellenic Pasteur Institute involved in international initiatives and patents

The European project LEAPS is dedicated to pandemic preparedness against viral pathogens, with partners from Belgium, Greece, France, Denmark and Switzerland. HPI contributes to the project with expertise in recombinant viruses and *in silico* and biochemical analyses of viral genomes (horizon-hlth-2022-disease-07-02: leaps). CoV-Catechol, coordinated by HPI and partners the Institut Pasteur (Paris), Institut Pasteur du Maroc, Fiocruz and Athens University, investigates the association of SARS-CoV-2 variants of concern and COVID-19 severity, with catecholamine biosynthesis for prognostic markers and new therapeutic directions (ACIP-505-CoV-Catechol). HPI registered a patent entitled "Methods for Discrimination - Certification of "Free-Range" Chickens Using Quantitative Biochemical and Immunological Markers". Another patent has been registered in Europe relating to "Iminodiacetic Acid Substituted Cyclodextrins as Potentiators of Beta-Lactam Antibiotics."

## JANUARY 2023 HPI member of the Greek Innovation Lab for Women (GIL4W)

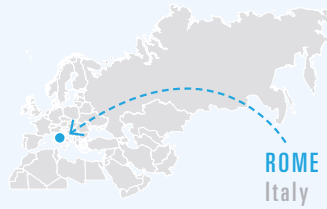
GIL4W is an alliance of public-private actors in partnership with the European Center for Women and Technology. In this context, HPI in collaboration with the Ministry of Social Cohesion and the

Ministry of Education prepared a plan for equity in education, mainly targeting immigrant children and adolescents with a focus on girls. HPI has the experience to provide vocational education through past collaborations with entities working for the inclusion of immigrants in the host society. <https://gil4w.eu/>

## IN 2023 ECDC Virtual Academy-AURORAE training program: Influenza and SARS-CoV-2 laboratory training for Europe

The Hellenic Pasteur Institute's Influenza National Reference Laboratory (NRL), a core partner of the AURORAE consortium of 12 institutes from 8 European countries, provides training on COVID-19 and influenza in the EU/EEA, W. Balkans and Turkey. HPI provided training to experts from Serbia, Montenegro, Kosovo and Cyprus, for laboratory capacity building and data collection, primarily aimed at strengthening the capacity for genomic epidemiology and public health bioinformatics to upgrade surveillance of respiratory viruses in Europe.

ID CARD



ROME  
Italy

**Year of establishment:** 1964

**Type:** Private non-profit foundation

**Address:** Viale Regina Elena 291, Rome, 161, Italy

**Website:**  
<https://www.istitutopasteuritalia.it/>

**Areas of expertise:**

Biochemistry, Bioinformatics, Cell biology, Genetics, Immunology, Microbiology, Virology, Parasitology, Neuroscience, Pharmacology

AND ALSO

- ▶ DNA damage and heart diseases.
- ▶ Promoting the work of women scientists in cell biology research.
- ▶ Pasteur Network international course on viruses, chronic inflammation and human cancers organized in Rome.
- ▶ Univax Day 2023 in collaboration with the Italian Society of Immunology, Clinical Immunology and Allergology.
- ▶ UniStem Day 2023, dedicated to high school students, in collaboration with Sapienza University of Rome.
- ▶ Science Festival in Salento in May.



**Researchers at the Institut Pasteur in Italy – Cenci Bolognetti Foundation demonstrate daily their commitment to combating health risks.** The institute aims to improve quality of life through its research.

**JUNE 2023**

**Understanding the link between neuroinflammation and brain disorders**

Teams at Institut Pasteur in Italy looked at the protein interleukin 1 $\beta$  (IL-1 $\beta$ ) to understand how it affects brain function in mice with repeated reactivations of the herpes simplex virus (HSV-1) in the brain. The mice showed signs of brain inflammation and memory problems, similar to Alzheimer's, including the buildup of harmful proteins. Research shows that after two HSV-1 reactivations the mice had higher levels of IL-1 $\beta$ , which led to significant changes in memory and thinking abilities, and brain cell communication. The changes were found to be linked to the activation of a protein called MeCP2, which, along with another protein HDAC4, suppressed genes important for brain cell communication. The use of antagonist Anakinra to block IL-1 receptors stopped the increase in MeCP2 and the suppression of important genes, improving both brain structure and function.

<https://bit.ly/3xJqIMN>



**MAY 2023**

**The role of brain cells in anxiety-like behavior and memory formation in mice**

In this study, researchers from the institute examined NK and ILC1 cells in a specific layer of the brain called the meningeal dura in adult mice. They found that interferon- $\gamma$  and acetylcholine from these cells affect brain function by changing how brain cells

communicate, which impacts behavior. Specifically, interferon- $\gamma$  helps form certain types of non-spatial memory by adjusting the activity of the GABA neurotransmitter in certain brain neurons. Acetylcholine, on the other hand, influences brain circuits that control anxiety-like behavior. These findings reveal new ways in which the immune system communicates with the brain to regulate its normal functions.

<https://bit.ly/3zzSO8o>

**OCTOBER 2023**

**Different roles of STAT4 protein in developing killer cells during gut inflammation**

Using genetic and molecular techniques, researchers found that STAT4 plays different roles in related natural killer cell types. When Stat4 is deleted in certain cells, NK cell development is hindered, but there is an unexpected increase in cytotoxic ILC1s during gut inflammation. This is because Stat4-deficient ILC1s show increased activity of genes controlled by STAT5 and develop abnormally when stimulated with IL-2, a STAT5 activator. Moreover, STAT4 in specific immune cells helps reduce gut inflammation in a colitis model by limiting IL-13 production from T cells in the intestine. The results highlight the unique and shared ways STAT4 controls gene activity in NK and ILC1s, which is crucial for gut inflammatory responses.

<https://bit.ly/3LcsLGT>

ID CARD



CASABLANCA  
Morocco

**Year of establishment:** 1929

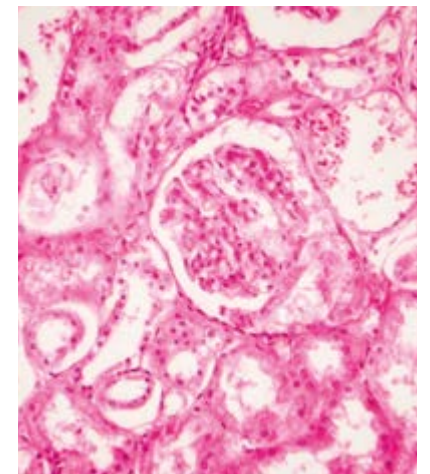
**Type:** Public Institution

**Address:** 1. Place Louis Pasteur, 20360 Casablanca, Morocco

**Website:** <http://www.pasteur.ma/>

**Areas of expertise:**

Public Health, Research, Surveillance, Pharmaceutical industry



**The Institut Pasteur du Maroc promotes and develops basic and applied research.** Alongside teaching in diverse biological disciplines, the institute also produces and distributes vaccines and other products for therapeutic or diagnostic use.

**MARCH 2023**

**The Africa CDC pathogen genomics initiative**

The Genome Sequencing Center at the Institut Pasteur du Maroc is an active member of the national genome surveillance network and the Africa CDC PGI network. Its aim is to strengthen Moroccan capabilities in the field of high-throughput genomics and bioinformatics. It carries out genome surveillance for SARS-CoV-2 in Morocco, soon to be extended to other North African countries to monitor the spread of the virus and detect variants of concern that may have an impact on disease transmissibility or severity. IPM is also involved in epidemiological studies and evaluating the impact of public health interventions. <https://bit.ly/4eWKGOL>

**JANUARY 2023**

**Laboratory of Food, Product and Environmental Safety at the Institut Pasteur du Maroc contributes to an international study on antimicrobial resistance**

Monitoring the emergence, evolution and spread of antibiotic resistance genes (ARGs) is one of the most effective ways of developing long-term strategies to tackle antimicrobial resistance (AMR).

The Institut Pasteur du Maroc contributed to a study led by the Technical University of Denmark, including more than 240 laboratories and entities worldwide. Metagenomic sequencing data for ARGs in 757 wastewater samples collected from 243 towns and cities in 101 countries between 2016 and 2019 suggest that some geographical regions are more susceptible to transmission events and should be monitored more closely.

<https://bit.ly/3AjgLQ>

**JUNE 2023**

**Development of a smart tool to diagnose cutaneous leishmaniasis**

Scientists are exploring the development of a novel diagnostic tool based on artificial intelligence. This smart model would improve patient comfort and facilitate the laborious task of laboratory diagnosis performed by healthcare professionals. As an effective control strategy for cutaneous leishmaniasis, it would also have a significant socio-economic impact.



**OCTOBER 2023**

**Inauguration of the IPM Laboratory for Quality Control of Vaccines and Biotechnology Products**

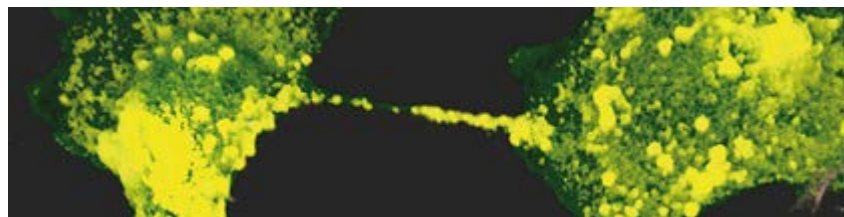
On October 26, 2023, at a ceremony attended by the US Consul General to Casablanca, the Minister for Health and Social Protection, Professor Khalid Ait Taleb inaugurated the Laboratory for Quality Control of Vaccines and Biotechnology Products at the Institut Pasteur du Maroc. The goal of the laboratory is to strengthen national quality control capabilities for vaccines and biotech products. The project is part of the implementation of the public-private partnership for local production of vaccines and biotech products, in line with the royal vision for vaccine sovereignty in Morocco. The aim is to give IPM the ability to regulate the quality, effectiveness and safety of vaccines and biotech products intended to be used within Morocco.

**MAY 2023**

**Novel therapeutic approaches for triple-negative breast cancer**

Triple-negative breast cancer (TNBC) is a heterogeneous subgroup that is more aggressive and harder to treat than other forms of breast cancer, with a higher risk of recurrence. New targeted therapies have recently been used for TNBC. Our aim is to design novel combinatorial approaches based on small molecules that target intracellular molecular alterations and modulation of the immune response. This would lead to better characterization of the TNBC subgroup and the development of personalized therapeutic strategies.

Saint Petersburg Pasteur Institute focuses on research, efforts to improve infectious disease diagnosis, and the development and production of diagnostic kits. It has been a Pasteur Network member since 1993.



## OCTOBER 2023 Uncovering the role of vaccines on COVID-19 incidence proportion

Scientists from the Saint Petersburg Pasteur Institute have demonstrated that the reported incidence proportion of COVID-19 is influenced not only by SARS-CoV-2 testing and vaccination coverage but probably also by the vaccine types used. With the same vaccination level and testing coverage, countries that primarily use vector and whole-virion vaccines have a significantly lower incidence rate compared to those that predominantly use mRNA vaccines. <https://bit.ly/3RWvFTM>

## AUGUST 2023 Investigating the role of MDC/CCL22 in the SARS-CoV-2 infectious process

Scientists from the Saint Petersburg Pasteur Institute had previously identified variations in macrophage-derived chemokine (MDC) concentrations on the viral variant of SARS-CoV-2 and the significant depletion in concentrations of plasma CCL22/MDC in both acute patients and convalescents. In this new study, investigations focused on existing theories of MDC/CCL22 dynamics in association with various pathologies, including respiratory diseases and COVID-19. One theory suggests that viral products bind to MDC/CCL22, thereby inhibiting its activity. Another explanation centers around the dendritic cell population and inhibition of their function. <https://bit.ly/4cNyzCk>

## MARCH 2023 A multi-stage international study to assess population immunity to SARS-CoV-2

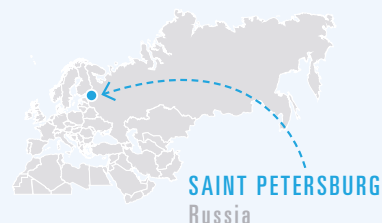
Population immunity to SARS-CoV-2 was the primary aim of the first multi-stage study conducted in Eastern Europe, Transcaucasia, and Central Asia. This study involved surveying 32,128,000 volunteers across 4 countries (Belarus, Armenia, Tajikistan, Kyrgyzstan) during the COVID-19 pandemic, with 137,652 ELISA testing for antibodies to Nc and RBD SARS-CoV-2. The study revealed essential patterns in seroprevalence dynamics and the pivotal role of collective immunity in shaping the trajectory and impact of the coronavirus epidemic. Later that year, another international study was initiated to assess population immunity to vaccine-preventable infections in EECCA countries. The study included the testing of 20,260 residents of the Russian Federation, Kyrgyzstan, and Belarus for antibodies to rubella, mumps, SARS-CoV-2, hepatitis A, B, C, D, and E. <https://bit.ly/3LgKr4e>



### AND ALSO

- **Analysis of 497 isolates from newly diagnosed tuberculosis patients reveals Mycobacterium tuberculosis Beijing genotype strains as the dominant strain in Northwestern Russia.**

## ID CARD



**Year of establishment:** 1908

**Type:** Public institution

**Address:** 14, ul. Mira, Saint Petersburg, Russian Federation

**Website:** <http://www.pasteurorg.ru>

**Areas of expertise:** Genetics, Diagnostics, Epidemiology, Virology, Immunology, Bacteriology, Biotechnology, Microbiology, Screening

## FEBRUARY 2023 Isolation of the first Zobellviridae family bacteriophage involved in Klebsiella pneumoniae

The study presents the first *K. pneumoniae* phage from the Zobellviridae family, namely vB\_KpnP\_Klyazma podovirus which was isolated from river water. The phage genome is composed of 82 open reading frames, organized into two clusters located on opposite strands. Phylogenetic analysis revealed that the phage belongs to the Zobellviridae family, and it demonstrated lytic activity against all *K. pneumoniae* strains with the KL20 capsule type. The research holds promise for utilizing depolymerases in antimicrobial therapy, even though they only make bacteria sensitive to environmental factors, rather than killing them directly. <https://bit.ly/45Y4qyc>

# 243,120

ELISA testing for antibodies to rubella, mumps, SARS-CoV-2, hepatitis A, B, C, D, and E conducted for a multi-stage international study of population immunity

The Institut Pasteur de Tunis conducts scientific research related to human and animal health, as well as vaccine production. Its missions also involve diagnostics and training.



## JUNE 2023 Leading the fight against leishmaniasis in Africa

The Institut Pasteur de Tunis is the first North African institution to lead a pan-African consortium, the "African Leishmaniasis Consortium" (ALC). With successful funding from the DELTAS Africa program, IPT will lead partner institutions in focusing on Leishmaniasis to develop a model for the control and elimination of neglected diseases in Africa. <https://bit.ly/3SqFaLo>

## SEPTEMBER 2023 Empowering African health institutes through social sciences and humanities



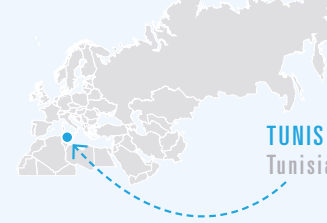
At the core of the ALLIANCE SHS Africa initiative, supported by the Solidarity Fund for Innovative Projects (FSPI) and coordinated by the Institut Pasteur de Madagascar and the Institut Pasteur (Paris), stands the Institut Pasteur de Tunis (IPT). This initiative aims to strengthen the capacities of African health institutes to address the socio-cultural dimensions of epidemics and equip them with suitable investigative tools. This effort significantly contributes to a targeted and efficient response to health crises across Africa. <https://bit.ly/4cVWwYK>

## OCTOBER 2023

### New Director General at the Institut Pasteur de Tunis

In 2023, Professor Samia Menif assumed the interim position of Director General at the Institut Pasteur de Tunis starting October 1st, succeeding Professor Hechmi Louzir, who had been in charge of the institute since July 2007.

## ID CARD



**Year of establishment:** 1893

**Type:** Public Institution

**Address:** 13, Place Pasteur, BP 74, 1002 Tunis, Tunisia

**Website:** <http://www.pasteur.tn/>

**Areas of expertise:** Microbiology, Parasitology, Virology, Venoms, Epidemiology, Vaccinology, Immunology, Human Genetics and genomics, Oncology, Neurosciences, Bioinformatics, Biostatistics

## SEPTEMBER 2023 Enhancing women's health in Africa through mathematical modeling and data analysis

The African Modeling and Analytics Academy for Women (AMAX) project coordinated by the Institut Pasteur de Tunis aims to improve women's health in Africa through mathematical modeling and data analysis. Funded by the Bill & Melinda Gates Foundation, it seeks to train researchers, develop advanced models, and influence health policies with a focus on women's needs. <https://bit.ly/4dhFkFX>

### AND ALSO

- **PerMediNA project: a pioneering initiative for precision medicine in the Maghreb.**
- **VISION project: Enhancement of capacities in vaccine and biological product development.**
- **Creation of the African Oncogenetics Network coordinated by IPT researchers.**
- **Institut Pasteur de Tunis co-hosts the 2023 the Pasteur Network Annual Meeting.**

## JULY 2023 Empowering leishmaniasis and malaria research in Africa through advanced computational technologies

Through the Bioinformatics and artificial intelligence for Infectious Diseases Drug Discovery research platform (BIND) project, funded under the ARISE (African Research Initiative for Scientific Excellence) program of the African Academy of Sciences, advanced computational technologies, including bioinformatics, molecular modeling, and artificial intelligence, are employed to develop novel therapeutics for leishmaniasis and malaria. <https://bit.ly/4dhWN88>



# Pasteur Network Annual Meeting 2023 took place in Tunis



**The Pasteur Network Annual Meeting 2023 (PNAM), co-organized with the Institut Pasteur de Tunis (IPT) took place from November 19 to 21, 2023 at the Laico Hotel and Conference Center in Tunis, Tunisia.** The PNAM gathers professionals from all Pasteur Network members, scientific institutions, public health institutions, multilateral organizations, civil society organizations and charitable foundations focusing on science and public health.

The meeting focused on global thematic priorities including climate-sensitive emerging infectious diseases, the R&D and innovation ecosystem, epidemic intelligence, AMR, and mother and child health.

The opening ceremony was chaired by Hechmi Louzir, former Director General of the Institut Pasteur de Tunis (IPT). It included speeches by Pr. Samia Menif, current Director General of the IPT, Amadou Sall, President of the Pasteur Network & CEO of the Institut Pasteur

de Dakar, Stewart Cole, former President of the Pasteur Network Foundation & former President of the Institut Pasteur, Rebecca Grais, Executive Director of the Pasteur Network and Ali M'rabet, Minister of Health for Tunisia. Presentations were delivered on "Tuberculosis - the forgotten pandemic" by Stewart Cole and "Arabic medicine & Arabic civilization" by Dr. Rafik Boukhris. The Talent award 2023 was announced at the end of the ceremony.

After a series of round tables and presentations, participants were engaged

in solution sessions on the Pasteur Network strategic pillars (see pages 8-9). This year, the meeting also provided a platform for young scientists from all the regions of the Pasteur Network to present their research focused on the key thematic areas.

The PNAM 2023 was funded by the Pasteur Network, the Institut Pasteur de Tunis, and Wellcome.

[Watch a replay of the ceremony and consult the agenda](#)

## Thanks

**We would like to thank all the people working in the Pasteur Network and the Pasteur Network staff, particularly those who allowed us to use their photo and/or who contributed to this report.**

**We thank the entire Institut Pasteur team, especially Fernando Arenzana-Seisdedos and the department of international affairs.**

**We take the opportunity to address our sincere thanks to all the partners, institutions and funders, present and future. Their continuous support contributes to the development of the Pasteur Network.**



### Talent Award 2023: Ngu Abanda, research scientist at the Centre Pasteur in Cameroun rewarded

During the opening ceremony of the Pasteur Network Annual Meeting 2023 in Tunis, Ngu Abanda, from the Centre Pasteur in Cameroun received the Pasteur Network Talent Award 2023 presented by Stewart Cole, President of the Pasteur Network Foundation and Former President of the Pasteur Network. See below to watch the announcement at the end of the opening ceremony. <https://bit.ly/4cv5VWU>

### Institut Pasteur de São Paulo became an active member

The Institut Pasteur de São Paulo, former Scientific Platform Pasteur-USP and former associate member became an active member of the Pasteur Network (see page 23).

### Fiocruz will host the next PNAM in 2024!

At PNAM 2023, the venue of the upcoming PNAM was announced. The Oswaldo Cruz Foundation – Fiocruz (see page 22), a valued member of the Pasteur Network, will play host and collaborate in organizing the event. The gathering is scheduled to be held in Rio de Janeiro, Brazil.

**Pasteur Network** – 25-28, rue du Docteur-Roux – 75724 Paris Cedex 15, France. **Editor-in-chief:** Juliette Hardy ; Sandrine Gouguet, cominter@pasteur.fr. **Conception:** Agence Bergamote. **Translation:** id2m. **Photo credits:** Cover: AdobeStock, Marcio Isensee e Sá. Summary: The Pulses, Denis Guyenon/ The Pulses, Cyrille Dupont/The Pulses, Institut Pasteur/François Gardy. p. 1: Tania, Contrasto. p. 2: Mario D'Angelo, Institut Pasteur/François Gardy. p. 3: Institut Pasteur/Inserm. p. 9: Institut Pasteur/François Gardy, Africa: p. 10-11: The Pulses, Mario D'Angelo. p. 12: Close\_Shoot. p. 15: Sitraka Andrinivo/Institut Pasteur de Madagascar. Americas: p. 20: Denis Guyenon/The Pulses. p. 23: Institut Pasteur/François Gardy. p. 25: Denis Guyenon/The Pulses. Asia-pacific: p. 26 : Cyrille Dupont/The Pulses. p. 32: Institut Pasteur de Nouvelle-Calédonie. p. 33: Pasteur Institute of Iran. p. 34 : Cyrille Dupont/The Pulses, Hyeji. p. 37: LP. p. 39: filipefrazao/iStock. Euro-Mediterranean: p. 40: Institut Pasteur/François Gardy. p. 44: Laura Pedro-Cos et Caroline Demangel. p. 45: Institut Pasteur/François Gardy. p. 46: Institut Pasteur/Lucie Peduto, Institut Pasteur/Pierre Gounon. p. 47: Kateryna\_Kon/ stock.adobe.com. p. 48: Institut Pasteur/François Gardy. p. 49: Dr\_Microbe/ iStockphoto. p. 51: Institut Pasteur/Adeline Mallet. All other pictures, Institut Pasteur. **Printing** : Sopedi. This annual report was printed with vegetable ink on paper from responsible sources.





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