

international network  
**Institut Pasteur**



*Institut Pasteur International Network  
In the Asia-Pacific Region*





## A UNIQUE NETWORK OF EXPERTISE DEDICATED TO THE FIGHT AGAINST INFECTIOUS DISEASES



Since 1888, date of its creation, Institut Pasteur has been committed to contain infectious diseases by working directly in regions where the local disease management needed support. The first Institut Pasteur outside France was created in 1891 in Saigon, now Ho Chi Minh City (Vietnam), to vaccinate people against rabies and smallpox. Because of this proximity to endemic areas, **the Institut Pasteur International Network**, which nowadays includes **32 centers spread worldwide**, provides **a unique capacity and capability** for microbiological surveillance and disease control, allowing a timely identification and response to emerging infectious threats.

The Institut Pasteur International Network has developed outstanding human skills, cutting-edge technical resources as well as **strong ties with national and international authorities and organizations** to investigate current and future health issues.

The nine institutes of the Institut Pasteur International Network in the Asia-Pacific Region are based in six different countries and ensure a **regional coverage** on **research, surveillance** and **control of infectious diseases**. The scientific and administrative staff gather more than 1200 people with very different backgrounds, working together and sharing the common Pasteurian values and objectives.



**More information about the Institut Pasteur International Network activities**

[www.pasteur-international.org/ip/easysite/pasteur-international-en/institut-pasteur-international-network](http://www.pasteur-international.org/ip/easysite/pasteur-international-en/institut-pasteur-international-network)



## INSTITUT PASTEUR PRESENCE IN THE ASIA-PACIFIC REGION

The Asia-Pacific region is a core region for new **emerging diseases** such as: SARS, avian flu, dengue, drug-resistant malaria and tuberculosis, some of which with potential to cause epidemics risk. None less serious, other infectious agents, highly prevalent in the area and responsible for AIDS, hepatitis B or C, increase significantly the disease burden and are developing resistance to treatment.

Fostering the **research capacities and capabilities in surveillance, monitoring infectious diseases and implementing needs-based research projects** represent a priority, especially in this high-risk, densely populated region with still limited health infrastructures in some countries. Indeed, lower access rates to treatment increase health care inequalities for the most needy communities.

The Institut Pasteur International Network in the Asia-Pacific Region provides **a platform for research, public health, and training activities**, in which each member institute is recognized as a center of excellence on infectious diseases. Such an effective network makes it possible to conduct world-class surveillance and investigation on pandemic and epidemic pathogens at the national and regional levels.

## MISSIONS

- ▶ Participate to the national surveillance activities with “one health” dimension for a better prevention, **outbreak management and control**.
- ▶ Strive for innovative and competitive research projects that are **adapted to local needs in an international context**.
- ▶ Contribute to **sustainable local capacity and capability building** to control emergence and spread of infectious diseases.
- ▶ Special attention is given to the prevention of mother to child transmission and children’s health protection.



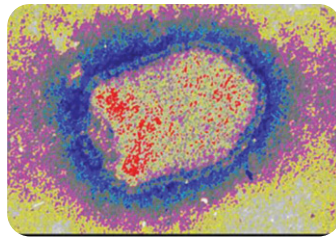
## KEY ACTIONS

**Research, Public Health and Training activities** focus on:

- ▶ Major infectious diseases (HIV / AIDS, tuberculosis, influenza, malaria, hepatitis)
- ▶ Emerging diseases (dengue fever, Chikungunya fever, encephalitis, hemorrhagic fever, hand foot and mouth disease)
- ▶ Neglected diseases (diarrhoea, leptospirosis, rabies, plague, scrub typhus, etc.)
- ▶ Surveillance and outbreaks intervention
- ▶ Surveillance and research on drug resistance
- ▶ Development of innovative approaches to diagnosis, prevention and therapies

Training programs for researchers, technicians and students are organized **in partnership with national / international organizations and universities**.

Courses and workshops promote **information, technology transfer and implementation of basic and cutting-edge biological methods** in environments that would otherwise be unable to access such technologies.



## FLAGSHIP PROJECTS

▶ The PAANTHER project (ANRS 12229) aims at improving diagnosis of **tuberculosis in HIV-infected children** in Asia and Africa. It is funded by the French *Agence Nationale de Recherche sur le SIDA et les Hépatites Virales*.

▶ The *European Commission funded project*, DENFRAME, has made fundamental contributions to understand and better control the **dengue** disease by: (i) identifying prognosis factors involved in disease severity and (ii) developing innovative diagnostic tools and therapeutic approaches.

▶ “Surveillance and Investigation of Epidemics in Southeast Asia” (SISEA Project), funded by the *Agence Française de Développement (AFD)*, aims at contributing to the regional improvement of **known or emerging virus epidemics** detection and handling. Another goal of this ambitious project is to facilitate cross-border response, enhancing the regional capacity of surveillance.

▶ The *European Commission-funded project*, RIVERS, fills out measures taken to fight **avian flu** by studying the role of environment in virus survival and re-emergence of diseases.

▶ The PERCH project funded by the *Bill and Melinda Gates Foundation* is dedicated to update the epidemiology data on **lower respiratory infections in children**; this in order to provide the best treatments and adapt prevention strategies.

▶ “Surveillance, monitoring, early detection and investigation of respiratory infections in human and animal populations in Sub Saharan Africa and South East Asia” funded by the *US Department of Health and Human Services (DHHS)* aims to strengthen country and regional capacity to detect **influenza viruses**, and in particular avian **H5N1 virus**.

▶ The *FLUPIG consortium, with EU funds*, examines both the role of genetic changes in the viral genome, as well as the role of host and environmental factors in adaptation of **avian influenza viruses** to pigs.

▶ *DNDi* is supporting **compound screening** for cell-based disease models related to a variety of diseases not typically addressed by conventional pharmaceutical drug discovery.

▶ **Training programs** funded by *AFD* and *DHHS* in collaboration with the *Regional Emerging Diseases Intervention Centre (REDI, Singapore)* focus on surveillance, epidemiology and biostatistics as well as outbreak investigation and infection control.

▶ **Malaria Consortium** developed by *WHO* with funding of *Bill and Melinda Gates Foundation, USAID* and the *Global Fund* aims to contain Artemisinin resistant *Plasmodium falciparum* by removing selection pressure and to move forward pre-elimination status.



## MAIN EXPERTISE & TECHNICAL PLATFORMS AVAILABLE

- ▶ National and WHO reference centers for Influenza, HIV, Dengue, Leptospirosis, Rabies, Malaria
- ▶ Partnership with hospitals and regional health centers
- ▶ Clinical trials experience in dengue fever, salmonella vaccines, treatment of HIV and tuberculosis, pneumonia in children, leptospirosis; rabies clinical research capabilities in all major infectious diseases thanks to extensive hospital collaborations and networks
- ▶ A cohort of 15,000 inhabitants in community (Kampong Cham region, Cambodia)
- ▶ Biobanks of biological specimens and pathogens
- ▶ State-of-the-art technologies and expertise for the understanding of infectious diseases mechanisms at cellular level: culture of plasmodium, high throughput screening assays (pseudotypes and VLP for H5N1, H1N1v, HIV, dengue), high throughput sequencing, high-content screenings (PhenomicScreen™, PhenomicID™ technology), cutting-edge imaging technologies, ion-channel platform, new nanomaterial development, medicinal chemistry
- ▶ Transgenic animal platform
- ▶ Translational medicine expertise and development programs with industry
- ▶ Facilities: Biosafety Laboratories Levels: 2, 2+ and 3 ; Animal Biosafety Laboratories Levels: 2, 2+, 3



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