



Sanofi and Institut Pasteur Honor Innovation in Biomedical Research with the *Sanofi-Institut Pasteur 2012 Awards*

Paris, France - November 13, 2012 - Sanofi (EURONEXT: SAN and NYSE: SNY) and Institut Pasteur have bestowed today the first **2012 Sanofi-Institut Pasteur Awards** to four internationally renowned researchers for their innovative research in life sciences. Each of the four winners will receive a prize of 120,000 euros.

During the Ceremony, the *2012 Sanofi-Institut Pasteur Awards* were presented by **Professor Peter C. Agre**, 2003 Nobel Prize in Chemistry to the four prize-winners:

- **Professor James J. Collins**, in the field of drug resistance,
- **Professor John Mekalanos**, in the field of neglected tropical diseases,
- **Professor Peter Palese**, in the field of vaccine innovation,
- **Professor Jeffrey V. Ravetch**, in the field of vaccine innovation.

"The Institut Pasteur is pleased to join forces with Sanofi to recognize and reward these highly talented scientists," said **Alice Dautry**, President of the Institut Pasteur. *"Each of them has made remarkable progress in their research topics. I would like to thank the members of the international jury and its President, Prof. Peter Agre. The Sanofi-Institut Pasteur Awards encourage scientists and their students to pursue their work and spotlight scientific research in general."*

"Healthcare needs are continuously evolving and ongoing innovation is vital" said **Christopher A. Viehbacher**, Chief Executive Officer, Sanofi. *"Through these awards, we look forward to supporting ongoing research and discovery that one day, may ultimately prevent disease or provide better treatment for those in need. These awards are a natural extension of the historic collaboration we have with Institut Pasteur, and we are proud to continue our partnership for innovation with them."*

Sanofi and Institut Pasteur are also honoring two young biomedical researchers for their outstanding research works: **Stéphanie Blandin**, INSERM and the Institute of Molecular and Cellular Biology in Strasbourg, and **Philippe Bousso**, INSERM and the Institut Pasteur.

The jury for the four awards was composed of seven prestigious members:

- **Pr. Peter C. Agre**, John Hopkins University, Baltimore, Nobel Prize for Chemistry 2003,
- **Pr. Elizabeth H. Blackburn**, University of California, San Francisco, Nobel Prize for Medicine 2009,
- **Pr. Pascale Cossart**, Head of the Bacteria-Cell Interactions Unit, Institut Pasteur,
- **Pr. Alice Dautry**, President of the Institut Pasteur,
- **Pr. Depei Liu**, Vice President of the Academy of Engineering of China and President of the Chinese Academy of Medical Sciences and the Peking Union Medical College,
- **Dr. Robert Sebbag**, Vice President, Access to Medicines, Sanofi,
- **Dr. Elias Zerhouni**, President, Global R&D, Sanofi.

Profiles of the four 2012 Sanofi-Institut Pasteur Awards winners

- **Drug Resistance**

James J. Collins is Professor in the Department of Biomedical Engineering at Boston University, a Howard Hughes Medical Institute Investigator, and a Core Founding Faculty member of the Wyss Institute at Harvard University. He is honored for his discoveries of unsuspected mechanisms of action of antibiotics and the way they generate resistant strains of bacteria.

Prof. Collins discovered that major classes of bactericidal antibiotics, regardless of their drug-target interaction, induce a common oxidative damage cellular death pathway. He showed that targeting bacterial systems that remediate oxidative damage is a viable means of potentiating bactericidal drugs and limiting the emergence of antibiotic resistance. He found that antibiotics can act as active, reactive mutagens, leading to multidrug resistance, a discovery with implications for the widespread use and misuse of antibiotics. He recently developed an inexpensive, clinically useful means for eradicating bacterial persisters, which are a sub-population of quasi-dormant cells that are resistant to antibiotic treatment. Prof. Collins' work has important implications for reducing antibiotic resistance and establishing innovative new treatments for bacterial infections.

- **Neglected Tropical Diseases**

John Mekalanos is Professor and Chairman of the Department of Microbiology and Immunobiology of Harvard Medical School. He is honored for his numerous discoveries on the complex mechanisms of cholera pathogenesis.

Through his work on *Vibrio cholerae* and other bacterial pathogens, and his training of a new generation of scientists, Prof. Mekalanos has had a major impact on the field of bacterial pathogenesis. He has invented creative genetic and molecular approaches to identify the virulence factors and the complex mechanisms evolved by pathogens to regulate them. His research on cholera during the past 30 years has allowed us to understand how *Vibrio cholerae* causes this disease and how this organism has evolved. Moreover, his fundamental research has been effectively coupled with practical applications, leading to the development of both safe, effective vaccines and a novel small-molecule inhibitor of *V. cholerae* virulence, major advances for the prevention and treatment of this disease.

- **Vaccine Innovation**

Peter Palese is Professor and Chairman of the Department of Microbiology of the Mount Sinai School of Medicine in New York City. He is honored for his fundamental work on the genetics of influenza viruses.

Prof. Palese has made a major contribution to our understanding of the influenza virus. He established the first genetic maps for the influenza A, B, and C viruses, identified the function of several genes of this virus, and defined the mechanism of neuraminidase inhibitors, which are now antiviral medicines approved by the Food and Drug Administration. He also pioneered the field of reverse genetics for negative strand RNA viruses, which allows the introduction of site-specific mutations into the genomes of these viruses. This revolutionary technique was crucial for the study of the functions of the viral genes and of viral pathogenesis, and facilitated the development of vaccines against the influenza virus. Reverse genetics also allowed Palese and colleagues to reconstruct and study the virus that caused the 1918 flu pandemic. Recently, Palese's group in collaboration with Adolfo García-Sastre has developed approaches that should lead to a long-lasting universal influenza virus vaccine.

Jeffrey V. Ravetch is Professor and Head of the Leonard Wagner Laboratory of Molecular Genetics and Immunology at the Rockefeller University. He is honored for discovering the mechanisms by which antibodies carry out their diverse biological functions.

The studies carried out by Prof. Ravetch revealed the essential mechanisms by which antibodies mediate and regulate their diverse in vivo biological activities. His findings overturned dogma and revealed how antibodies can trigger inflammation, on the one hand, while suppressing inflammatory responses on the other, thereby resolving longstanding paradoxes on the contradictory nature of antibody function. These studies have fundamentally altered our understanding of this central class of immune mediators and have provided molecular explanations for their roles in host defense and vaccine design. New classes of therapeutic molecules for the treatment of infectious diseases have been developed as a result.

For further information: www.sanofi-institutpasteur-awards.com

Profiles of the two young researchers honored for their outstanding research works

Stéphanie Blandin, Inserm and Molecular and Cellular Biology Institute in Strasbourg, is selected for her important research on how mosquitoes resist malaria.

Stéphanie Blandin is a 2010 prize-winner from the ERC (European Research Council) to study the “Genetics of Resistance to Malaria Parasites in the Mosquito *Anopheles gambiae*”. She is investigating the genetic factors that allow certain mosquitoes to naturally resist malaria parasites. These factors are potentially very important, as they render mosquitoes unable to transmit the disease to humans. The author of some 23 scientific articles, her work on the genetics of mosquito resistance was published in *Science* and other leading journals.

Philippe Bousso, Inserm and Institut Pasteur, is selected for his outstanding work on the dynamics of the immune system.

Philippe Bousso is a 2010 prize-winner from the ERC (European Research Council) for its research on the “Regulation and outcome of immune cell interactions in vivo”. He employs powerful imaging technology to visualize host pathogen interactions and immune responses to tumors and is making important contributions to our understanding of the dynamics of the immune system. His discoveries are published in the leading scientific journals and his work was recognized with the J.M. Le Goff Prize from the French Academy of Sciences.

About the Institut Pasteur

An internationally renowned center of biomedical research, the Institut Pasteur, created in 1887 by Louis Pasteur, is a recognized private non-profit foundation. Its mission is to contribute to preventing and fighting disease in France and around the world, through scientific and medical research, education, and public health activities. About 2600 individuals work on its campus in Paris. In addition to research in the field of life sciences, a significant part of its work is dedicated to the study of infectious, genetic and neuro-degenerative diseases as well as certain cancers. The Institut Pasteur is at the heart of an international network comprising 32 institutes on 5 continents. Since its creation, 10 researchers have received the Nobel Prize in Medicine. www.pasteur.fr

About Sanofi

Sanofi, a global and diversified healthcare leader, discovers, develops and distributes therapeutic solutions focused on patients’ needs. Sanofi has core strengths in the field of healthcare with seven growth platforms: diabetes solutions, human vaccines, innovative drugs, consumer healthcare, emerging markets, animal health and the new Genzyme. Sanofi is listed in Paris (EURONEXT: SAN) and in New York (NYSE: SNY).

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