



P R E S S R E L E A S E

Geneva, January 16, 2008

2008 LOUIS-JEANTET PRIZE FOR MEDICINE

THE 2008 LOUIS-JEANTET PRIZE FOR MEDICINE is awarded to **PASCALE COSSART** of France, a professor at the Pasteur Institute, head of the Inserm/INRA 'Bacteria-Cell Interactions' Unit and director of the Department of Cell Biology and Infection, as well as to **JÜRIG TSCHOPP** of Switzerland, a professor and co-director of the Department for Biochemistry at the University of Lausanne.

THE LOUIS-JEANTET FOUNDATION awards each of the prize-winners the sum of 600'000 Swiss francs for the continuation of their work, and 100'000 Swiss francs for their personal use.

THE PRIZE-WINNERS undertake fundamental biological research with significant implications for medicine.

PASCALE COSSART is awarded the 2008 Louis-Jeantet Prize for Medicine for her pioneering fundamental research work on *Listeria monocytogenes*, a bacterium that causes listeriosis, a serious foodborne infection. She identified the main virulence factors of this pathogen and discovered how it penetrates and disseminates in the organism. Furthermore, PASCALE COSSART coordinated a European consortium that fully decrypted the *Listeria monocytogenes* genome. Her research has led to new concepts both in infection biology and in cell biology, paving the way to the development of new therapeutic tools for the treatment of infectious illnesses. PASCALE COSSART will use the prize money to continue studies on *Listeria* and to analyse several aspects of the infectious process that are still unexplored, in order to hopefully discover unsuspected strategies used by *Listeria* and other pathogens.

JÜRIG TSCHOPP is awarded the 2008 Louis-Jeantet Prize for Medicine for his pioneering work in the fields of cell death and inflammation. He uncovered the key role played in these two processes by the Fas and inflammasome protein assemblies. Should they be deficient, the former can lead to the development of cancer and the latter to serious inflammatory diseases. His work has already resulted in the development of new anti-cancer therapies, some of which are undergoing clinical trials, as well as an effective medicine against gout. JÜRIG TSCHOPP will use the prize money to continue his research on the Fas complex and the inflammasome, hopefully leading to treatments for other disorders, and notably for neurodegenerative diseases.

THE AWARDS CEREMONY will take place on Thursday October 9, 2008, in Geneva (Switzerland), on the occasion of the celebrations for the Foundation's 25 years anniversary.

PASCALE COSSART

Pascale COSSART is a member of the European Molecular Biology Organization (EMBO), of the French Académie des Sciences, of the German Academy Leopoldina and of the American Academy of Microbiology. She has already received numerous distinctions, in particular the Richard Lounsbery Award by the American National Academy of Science and the French Académie des Sciences, the L'OREAL-UNESCO Award for Women in Science, the Louis Pasteur gold Medal of the Swedish Medical Society and, in 2007, the Robert Koch Prize. In 2000, she became an International Research Scholar of the Howard Hughes Medical Institute.

Research on the bacterial pathogen *Listeria*.

The bacterium *Listeria monocytogenes* may contaminate food products and is the cause of a serious foodborne infection, listeriosis, which is fatal in 30% of cases. Until 1986 the disease was poorly understood; PASCALE COSSART was one of the first to study it in detail, by combining a variety of innovative approaches.

The biologist showed in particular how *Listeria* penetrates cells, moves inside cells and subsequently spreads throughout the organism after having crossed the intestinal barrier. She also identified the main virulence factors of this bacterium and clarified their roles during the infection. She highlighted the molecular basis of the species specificity of this pathogen using a humanized transgenic mouse. Her work on *Listeria* has become a model and a reference for the study of other pathogenic agents.

Furthermore in 2001, PASCALE COSSART coordinated the process of decrypting the *Listeria monocytogenes* genome, as well as that of its inoffensive 'cousin' - *Listeria innocua*. Comparing these two genomes not only allows better focus on the genes responsible for the pathogenic character of the listeriosis agent, but also improves our understanding of its formidable capacity to adapt to all kinds of environments.

This research opens the way for designing and developing new therapeutic tools, not only against listeriosis, but also against other infectious diseases.

JÜRIG TSCHOPP

JÜRIG TSCHOPP leads a research group specialised in the study of the mechanisms associated with cell death and innate immune responses. He has already received the Friedrich Miescher Prize awarded by the Swiss Society for Biochemistry, the Swiss Cloëtta Foundation Prize, the San Salvatore Prize of Ticino for cancer research, as well as the European Cell Death Society Prize. In addition, JÜRIG TSCHOPP jointly founded two biotech companies: the Apoxis start-up in Lausanne (which received the Swiss Technology Award in 2004) and Apotech based in Epalinges and the United States.

From cell death to inflammation.

Cell death forms an integral part of our body's natural processes. At any moment in time, numerous cells in our body break down naturally, some due to necrosis, others as a result of 'suicide' – a phenomenon called apoptosis. Where this latter process fails, cells proliferate in an uncontrolled manner leading to the development of cancers.

JÜRIG TSCHOPP has studied the mechanisms of cell death for twenty years. He has notably characterized the function of caspases, a class of enzymes that are vital for triggering apoptosis. This research led him to conceive a new anti-cancer treatment which is currently undergoing Phase I clinical testing (the assessment of medicines for the absence of toxicity). Preliminary results are most encouraging.

There is in fact a large family of caspase enzymes, some of which are involved in inflammation. This naturally also attracted JÜRIG TSCHOPP's interest. He demonstrated the key role played by an assembly of proteins he called inflammasome. This triggers a whole series of reactions which lead to the formation of interleukin-1, an inflammatory molecule. This discovery has already had important therapeutic implications. JÜRIG TSCHOPP suggested using a medicine which blocks interleukin-1 for the treatment of inflammatory diseases such as the Muckle-Wells syndrome (a serious form of hereditary urticaria) and gout. For both cases, the results of the treatment proved to be spectacular.

THE LOUIS-JEANTET PRIZE FOR MEDICINE

The Louis-Jeantet Prize for Medicine is awarded each year to researchers who have distinguished themselves in the field of biomedical research in Europe. It is aimed at encouraging the continuation of research projects of major importance in the prize-winners' laboratories.

Candidates for the Louis-Jeantet Prize for Medicine must be practising their activities in one of the European Council member countries, but they are under no obligation to be nationals of such countries.

Since its inception in 1986, the Louis-Jeantet Prize for Medicine has been awarded to 66 researchers working in Europe, of which 21 in Great Britain, 13 in Switzerland, 11 in France, 10 in Germany, 3 in The Netherlands, 3 in Sweden, 2 in Belgium, 2 in Finland and 1 in Austria.

Since 1986 the total sum awarded by the Foundation to the 66 prize-winners for the continuation of their work amounts to 46m Swiss francs.

THE LOUIS-JEANTET FOUNDATION

The Louis-Jeantet Foundation was set up in 1982 according to the wishes of Louis Jeantet, a French businessman who died in Geneva (Switzerland) in 1981. The headquarters of the Foundation, which commenced activities in 1983, are situated in Geneva (Switzerland).

In addition to making the annual award of the Louis-Jeantet Prize for Medicine, the goal of the Foundation is to encourage teaching and research at the Faculty of Medicine of the University of Geneva, mainly by creating and financing professorial positions and their associated infrastructure.

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