Press release

The Fondation Ipsen celebrates its 30th anniversary with a prestigious conference on the perspectives of cancer research, "Biology viewed through the prism of cancer", attended by 8 Nobel Prize laureates and the greatest scientists in biomedical research

Paris (France), April 11, 2014 - The Fondation Ipsen is celebrating its 30th anniversary. During these three decades, it has gone hand in hand with the evolution of biomedical research at the highest level, organizing the first scientific conferences on many current and emerging areas of biology and medicine, including those related to Alzheimer's disease, gene therapy and stem cells in the brain, as well as the idea of protective genes against diseases. The foundation has also been behind completely new approaches, such as neurophilosophy, the extension of the prion concept in all neurodegenerative diseases, and even the neurobiological approach to human values.

To celebrate its 20th anniversary, the Fondation Ipsen hosted a grand event entitled "From brain to mind", which offered an overview of the dramatic advances made in neuroscience.

For its 30th anniversary, the Fondation Ipsen has decided to organize a conference on cancer science, as seen from the point of view of advances in fundamental biology. This scientific meeting is an opportunity to review current knowledge in the field of cancer research but also, more generally, to explore some of the most fascinating aspects of biological science. Indeed, during the last few decades fundamental research in the field of cancer has achieved considerable advances which have "fertilized" biology as a whole. In practice, cancer research merges with the very heart of research in cellular and molecular biology, as indicated by discoveries related to telomeres, stem cells, epigenesis, and gene therapy.

Marc de Garidel, Chairman and Chief Executive Officer of Ipsen, stated: *"I'm delighted that the Fondation Ipsen, because of its strong reputation and expertise in the science of oncology, is able to gather together the world's best researchers to discuss the need for further advancement in the treatment of this deadly disease."*

Yves Christen, Chairman of the Fondation Ipsen, added: *"Up to now the treatment of cancer has not fully benefited from the results of the latest scientific and medical advances. After unquestionable progress, it has come up against a fundamental limit due to the fact that cancer is not a disease from the outside (like infections) but a pathology related to the functioning of living organisms. For this reason conventional treatments (surgery, radiation, antimitotics) do not really target specific mechanisms, and exert significant adverse effects."*

However, over the past few years, new approaches have emerged, targeting specific mechanisms such as the effect on protein-phosphorylating enzymes (protein kinases). These often concern specific forms and therefore a limited number of patients are affected, but they represent future approaches. In this same vein, and after so many years of trial and error,

today immunotherapy has proven effective under specific conditions. All these advances have altered the medical view of cancer. It is no longer a matter of an acute disease, a merciless killer, but a chronic disease - just like those affecting the cardiovascular system - with which we can envisage living for many years to come.

The Fondation Ipsen

Founded in 1983 under the aegis of the Fondation de France, the Fondation Ipsen is dedicated to contributing to the development and dissemination of scientific knowledge. During this time, the Fondation Ipsen aims to promote the interaction between researchers and clinicians, essential exchanges because of the extreme specialization of these professions. The Fondation Ipsen's goal is to incite contemplation of the great scientific challenges for years to come. The Fondation has developed a significant international network of scientific experts, who meet regularly at Medicine and Research Conferences, dedicated to five main themes: Alzheimer's disease, neuroscience, longevity, endocrinology and cancer. Furthermore, since 2007 the Fondation Ipsen has introduced several series of meetings in partnership with the Salk Institute, the *Karolinska Institutet*, Massachusetts General Hospital, the DMMGF Foundation, as well as with the journals Nature, Cell and Science. The Fondation Ipsen has published over one hundred books and has awarded more than 250 prizes and grants.

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Prestigious participants

The speakers and chairmen of the conference are among the most famous scientists of our time. They are:

Michael BISHOP

A University Professor at the University of California, San Francisco (UCSF), where he has long been a dean, Michael Bishop discovered oncogenes (cancer genes) with Harold Varmus, notably the first human oncogene *c-Src.* This discovery has revolutionized Biological Sciences by demonstrating that cancer was caused by the activity of normal genes that carry out important functions in the body (but which, in cancers, are the subject of mutations or an abnormal activation). Due to this he received the Lasker Award in 1982 and the Nobel Prize (with H. Varmus) in 1986. Mike Bishop published his autobiography in 2003: *How to win the Nobel Prize: an unexpected life in science*. Mike Bishop is a member of the U.S. National Academy of Sciences and other societies such as the Royal Society. He also received the National Medal of Science in 2003.

Lewis CANTLEY

Professor at Harvard University and Director of the Cancer Center at Beth Israel Deaconess Medical Center in Boston, Lewis Cantley recently relocated to New York to direct the Weill Cornell Medical College. He is particularly well known for the discovery and study of PI 3-Kinase, which plays a critical role in cancer and diabetes (kinases are enzymes which phosphorylate proteins, and occur in all intracellular signaling pathways). Dr. Cantley is a member of the National Academy of Sciences and received the 2013 Breakthrough Prize in Life Sciences.

Charles SAWYERS

A doctor at the famous Sloan-Kettering Cancer Center, Charles Sawyers is a specialist in chronic myeloid leukemia. He played a major role in highlighting the therapeutic effects of new anticancer drugs. In recognition of this discovery, he received the Lasker Award (which often precedes reception of the Nobel Prize) in 2009. Sawyers is a member of the National Academy of Sciences and the Institute of Medicine (the U.S. academy of medicine). He was awarded the Breakthrough Prize in Life Sciences.

Craig THOMPSON

Craig Thompson, MD is the President and Chief Executive Officer of Memorial Sloan-Kettering Cancer Center (the oldest private institution devoted to cancer in the United States and, arguably, the most important in the world). He is one of the pioneers of research on the relationship between cancer and metabolism. He is a member of the National Academy of Sciences and its Institute of Medicine.

Geneviève ALMOUZNI

Geneviève Almouzni, PhD has been Director of the Research Center of the Institut Curie since 2013. The Research Director at the CNRS, she is an internationally recognized specialist in epigenetic mechanisms that govern gene expression. In 2013, she received the FEBS / EMBO Women in Science Award. On this occasion Sir John Gurdon, a pioneer in the field of cloning and 2012 Nobel

Prize winner, paid her a glowing tribute. Geneviève Almouzni was recently elected to the Academy of Sciences.

Inder VERMA

Inder Verma manages the Laboratory of Genetics at the Salk Institute in San Diego. Of Indian origin, this researcher is one of the pioneers in the development of techniques for gene transfer and therefore gene therapy. More recently, he highlighted the possibility of using lentiviruses (the group of viruses which includes HIV) to transfer genes. He played a crucial role in identifying the first oncogenes (in particular *c-fos*). I. Verma is a member of the National Academy of Sciences and its Institute of Medicine. He is also editor of the journal for the American Academy of Sciences (the Proceedings of the National Academy of Sciences), and a foreign member of the Indian Academy of Sciences. He received the prestigious Vilcek Foundation Prize (given to the most illustrious American scientists of foreign origin). Inder Verma is co-organizer of the conference celebrating 30 years of the Fondation Ipsen.

David BALTIMORE

David Baltimore is arguably one of the most prestigious biologists currently working. In fact, he represents a pivotal link between the creators of molecular biology (Crick, Watson, Monod, Jacob, etc.) and their successors. Having discovered the reverse transcriptase enzyme (which synthesizes DNA from RNA, a mechanism that was the opposite of that originally described by molecular-biology, which allows the retrovirus to reproduce), he has achieved an essential breakthrough in molecular biology and virology. Due to this discovery (which is central to the work on AIDS) he received the Nobel Prize in Medicine at the age of 37 in 1975. However, his scientific achievements do not end there: he is also responsible for the discovery of the important transcription factor NFkappaB, the decisive work on enzymes allowing genetic recombination, particularly in immunology. D. Baltimore managed or founded several institutes and universities: the Whitehead Institute at MIT (Boston), Rockefeller University (New York) and the California Institute of Technology (Caltech). He is a member of the National Academy of Sciences, the Institute of Medicine of this Academy and many other academies, such as the French Academy of Sciences and the Pontifical Academy. His achievements were also chronicled in a book by Shane Crotty, entitled *Ahead of the curve: David Baltimore's life in science.*

Hugues de Thé

Hugues de Thé, Professor at the University Paris Diderot, manages the Pathology and Molecular Virology unit for INSERM and CNRS (at Hospital St Louis in Paris). His work on retinoic acid and arsenic has made it possible to cure a rare form of leukemia (acute promyelocytic leukemia). A member of the Academy of Sciences and former Chairman of the Scientific Council of the ARC, he has received several prestigious awards, notably the Scientific and Technological Cooperation Award of the People's Republic of China in Beijing, awarded at the 2012 ceremony presided over by President Hu Jintao. His work has been conducted, partly, in collaboration with Professor Chen Zhu, Vice-President of the Chinese Academy of Sciences and former Minister of Health of the People's Republic of China. Hugues de Thé is the son of Blaudin de Thé, a pioneer in research on the viruses implicated in some cancers.

Elizabeth BLACKBURN

Elizabeth Blackburn, born in Tasmania, is a professor at the University of California in San Francisco. She discovered telomerase, an enzyme which makes it possible to lengthen telomeres (the end of the chromosomes of which one end is cut at each cell division). Due to this discovery, which is of significant interest for research on cancer and aging, she received the Nobel Prize in Medicine in 2009. Elizabeth Blackburn has received many other awards such as the Lasker Award in 2006, she has been elected to the National Academy of Sciences, the Institute of Medicine, the Royal Society and the Australian Academy of Sciences. She was also awarded the L'Oreal-UNESCO Award for Women in Science in 2008 and has been named by *Time Magazine* in 2007 as one of 100 well-known figures who are transforming today's world. A book has been dedicated to her: *Elizabeth Blackburn and the story of telomeres* (by Catherine Brady).

Ronald EVANS

Ronald Evans, professor at the Salk Institute in San Diego, is a specialist in gene expression. Competing with many other scientists, including the French Pierre Chambon, he elucidated the mechanisms of intranuclear receptors of hormones (such as estrogens), for which he received (along with Chambon and Jensen) the Lasker Award in 2004. Ronald Evans is also the author of numerous works on the metabolism. A member of the National Academy of Sciences, he has received several other major awards, in particular the Wolf Prize in Medicine in 2012 and the Fondation Ipsen Prize devoted to endocrine interactions. The citation index places him amongst the top 10 biologists in the world.

Eric LANDER

Eric Lander is a professor at MIT, the former Director of the Whitehead Institute at MIT and the founder of the Broad Institute at MIT. He played a leading role in the Human Genome Project, the project decoding the human genome, which has earned him a place among the 100 most influential people in the world in the *Time Magazine* ranking in 2004. A member of the National Academy of Sciences, Eric Lander is also the co-chairman of the Council of Advisors on Science and Technology for President Obama. He was awarded the Breakthrough Prize in Life Sciences.

Robert WEINBERG

A professor at MIT, Robert Weinberg also manages the institute's Ludwig Center. We owe both the discovery of the human oncogene *Ras* and that of the first tumor suppressor gene *Rb* (whose mutations are responsible for retinoblastoma) to him. These discoveries are referred to particularly in the book by Natalie Angier: *Natural obsessions.* He is involved in many aspects of cancer research, especially metastasis. Robert Weinberg has received numerous awards, including the National Medal of Science in 1997, the Wolf Prize in 2004 and the Breakthrough Prize in Life Sciences in 2013. He is a member of the National Academy of Sciences and a foreign member of the French Academy of Sciences.

Jules HOFFMANN

Jules Hoffmann, a professor at the University of Strasbourg and member and former chairman of the Academy of Sciences, discovered the *Toll* genes of Drosophila, involved in innate immunity. This discovery has exerted considerable influence on the development of immunology. Due to this, Jules Hoffmann received the Balzan Prize and the Shaw Prize, as well as the CNRS Gold Medal in 2011

and the Nobel Prize in Medicine the same year. Jules Hoffmann has been elected to the National Academy of Sciences and the Russian Academy of Sciences. He is also a member of the French Academy.

Mario CAPECCHI

Mario Capecchi is a professor of genetics and biology at the University of Utah's School of Medicine. We have him to thank for the discovery of homologous recombination, which has made it possible to develop techniques to manipulate genes at the origin of the creation of the famous *Knockout Mouse* (where a specific gene is invalidated). In recognition of this discovery, he received the Lasker Award in 2001, followed by the Nobel Prize in medicine in 2007. He also received the National Medal of Science in 2001.

Phillip SHARP

Phillip Sharp is a professor at MIT. He discovered the splicing mechanisms (the fact that the genes of eukaryotes contain sequences - introns - which are eliminated at the level of messenger RNA during the synthesis of proteins, which means that the same sequence of DNA can produce several proteins). This discovery led him to receive the Lasker Award in 1988 and the Nobel Prize in medicine in 1993. A member of the National Academy of Sciences and the Royal Society, he received the National Medal of Science in 2004.

Daniel LOUVARD

Former Director of the Research Center of the Institut Curie, Daniel Louvard worked at EMBL, at the Institut Pasteur, and has been involved in the management of several research centers. A cellular biologist, he studied the cellular basis of cell polarity and plasticity, in particular at the level of the epithelium. Daniel Louvard is a member of the Academy of Sciences. He has received numerous awards, including the Lounsbery prize in 1996.

Harold VARMUS

Co-discoverer of oncogenes, and winner of the Lasker Award in 1982, Nobel Prize in 1986. Former Director of the NIH, Director of the National Cancer Institute. Advisor to President Obama. H. Varmus published his memoirs under the title *"The art and politics of science".*