

# Fondation IPSEN 2011 Endocrine Regulations Prize

## Paolo Sassone-Corsi *(University of California, Irvine, USA)*

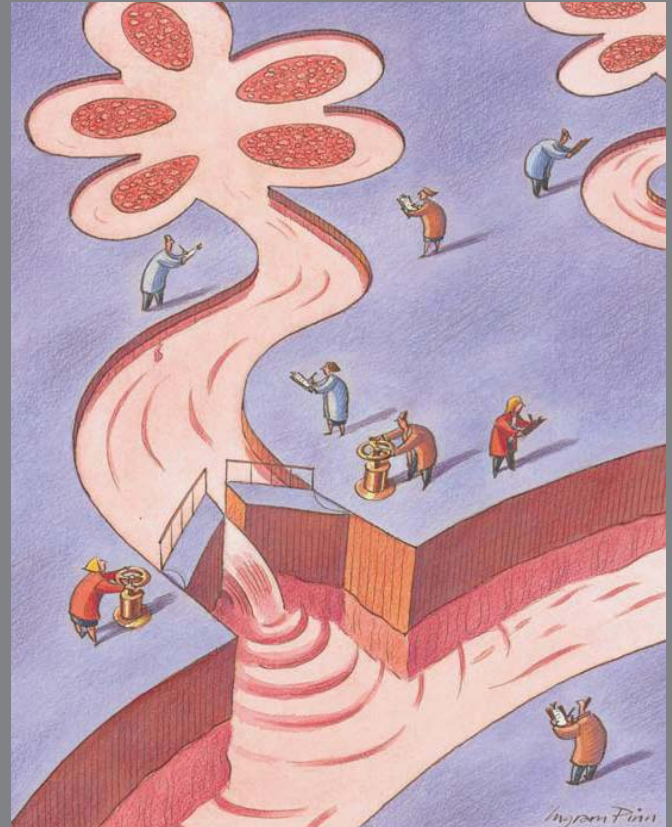
Wylie Vale Lecture - ICE/ECE meeting *(Florence, Italy)*

Monday, May 7, 2012 *(17:10 - 17:55, Main Hall)*



Paolo Sassone-Corsi was born in Italy. He studied biology and received his PhD in genetics from the University of Naples in 1979. He pursued a postdoctoral fellowship at the Centre National de la Recherche Scientifique (CNRS) in Strasbourg until 1983. He remained there, first as an assistant research fellow and later as an associate research fellow until 1985. After

four years at the Salk Institute, he returned to the CNRS in Strasbourg in 1990 as director of research. Since 2006 he is a Professor of Microbiology and Molecular Genetics in the department of Pharmacology at the University of California. Paolo Sassone-Corsi's major interest is concentrated on the mechanisms of signal transduction that are able to modulate nuclear functions and, in particular gene expression, chromatin remodeling and epigenetic control. These events have important consequences for the understanding of cellular proliferation, oncogenesis and differentiation. The stimulation of intracellular pathways and the activation of specific protein kinases lead to transcriptional regulation by changes in the phosphorylation state of nuclear factors. These act as final targets of different pathways and modulate expression from specific regulatory sites. The strength of these studies is particularly evident within physiological settings which have been investigated by his lab, the molecular control of circadian rhythms and the differentiation of male germ cells.



### COMMON THREADS: EPIGENETICS, METABOLISM AND THE CLOCK

Circadian rhythms govern a number of fundamental physiological functions in almost all organisms, from prokaryotes to humans. The circadian clocks are intrinsic time-tracking systems with which organisms can anticipate environmental changes and adapt to the appropriate time of day. Disruption of these rhythms can have a profound influence to human health and has been linked to depression, insomnia, jet lag, coronary heart disease, neurodegenerative disorders and cancer. At the heart of circadian regulatory pathways is the clock machinery, a remarkably coordinated transcription-translation system that utilizes also dynamic changes in chromatin transitions and epigenetic control. Recent findings indicate that regulation goes also the other way, since specific elements of the clock are able to sense changes in the cellular metabolism. Understanding in full detail the intimate links between cellular metabolism and the circadian clock machinery will provide not only critical insights into system physiology and endocrinology, but also novel avenues for pharmacological intervention towards metabolic disorders.

### Previous laureates :

- 2002: Wylie Vale *(Salk Institute for Biological Studies, La Jolla, USA)*
- 2003: Robert Lefkowitz *(Duke University, Durham, USA)*
- 2004: Pierre Chambon *(IGBMC, Université Louis Pasteur, Strasbourg, France)*
- 2005: Tomas Hökfelt *(Karolinska Institute, Stockholm, Sweden)*
- 2006: Roger Cone *(Oregon Health and Science University, Portland, USA)*
- 2007: William Crowley *(Harvard Medical School, MGH, Boston, USA)*
- 2008: Ronald Evans *(Salk Institute for Biological Studies, La Jolla, USA)*
- 2009: Gilbert Vassart *(Université Libre de Bruxelles, Bruxelles, Belgium)*
- 2010: Shlomo Melmed *(Cedars-Sinai Medical Center, Los Angeles, USA)*

### Jury :

- President:** Iain Robinson *(National Institute for Medical Research, London, UK)*
- Xavier Bertagna *(Hôpital Cochin, Paris, France)*
- Felipe Casanueva *(Universidad de Santiago de Compostela, Santiago de Compostela, Spain)*
- Michael Conn *(ORPC, Beaverton, USA)*
- Alain Enjalbert *(UMR 6231 CNRS-Univ. Aix Marseille II et III, Marseille, France)*
- Ezio Ghigo *(Ospedale Molinette, Turin, Italy)*
- Ilpo Huhtaniemi *(Imperial College Faculty of Medicine, London, UK)*
- Paul Kelly *(Faculté de Médecine Necker Enfants Malades, Paris, France)*
- Steven Lamberts *(Erasmus University, Rotterdam, the Netherlands)*
- Stafford Lightman *(University of Bristol, Bristol, UK)*
- Günter Stalla *(Max Planck Institute of Psychiatry, München, Germany)*