



# Fondation Francqui-Stichting

Fondation d'Utilité Publique - Stichting van Openbaar Nut

## **Ceremony of the Francqui Prize by His Royal Highness Prince Philippe at the "Palais des Academies" on June 3, 2008**

*Curriculum Vitae - Report of the Jury*

---



Michel Georges

### ***Curriculum Vitae***

Michel Georges was born July 18th 1959 in Schoten (Belgium) from a Flemish mother and a Walloon father.

He spent his primary and high-school years at the Onze Lieve Vrouwe College in Antwerp. From there he went to the Facultés Universitaires Notre Dame de la Paix in Namur for the first three years (= "candidatures") of his veterinary curriculum, and obtained his DVM degree from the Faculty of Veterinary Medicine of the University of Liège (ULg) (still in Cureghem near Brussels at the time) in 1983.

He was offered an assistantship in the unit of genetics headed by Professor Hanset to positionally clone the gene causing double-muscling in Belgian Blue cattle. To acquire the necessary skills in molecular genetics he obtained a masters degree in molecular biology at the Free University of Brussels, and worked for 5 years at the IRIBHN, mentored by Professor Gilbert Vassart and collaborating closely with Professor Mark Lathrop.

These years were primarily devoted to the development of mapping tools needed to achieve the set targets. In 1989, he accepts a position in Salt Lake City as senior scientist for Genmark, a spin-off company founded by Professors Ray White and Ray Gesteland from the University of Utah, aiming at applying biotechnology – molecular genetics and cloning – to livestock breeding. There, he will further the development of the necessary molecular tools which he then uses to map the first QTL (=

genomic regions influencing economically important traits such as milk/meat yield and quality, fertility, disease resistance, etc.), with the aim to apply this knowledge in “marker assisted selection”. Based on this work, he will defend a “thèse d’agrégation de l’enseignement supérieur” at the ULg in 1991.

In 1994, he returns to Belgium and obtains a professorship in genetics in his alma mater. Over the years, he will build a multidisciplinary team – the Unit of Animal Genomics (UAG) - specialized in the molecular dissection of agronomically important complex traits (= influenced by multiple genes interacting with environmental factors). This research is primarily funded by private companies (from Belgium, the Netherlands, New-Zealand and Canada), and by the Ministry of Agriculture. It led for example to the identification of the myostatin gene causing double-muscling in 1997, and contributed decisively to the implementation of “genomic selection” which is now revolutionizing livestock breeding.

By studying phenotypic characteristics of domestic animals he and his colleagues will identify novel molecular mechanisms resulting from the perturbation of miRNA-mediated gene regulation (a recently discovered novel class of genes). This will lead to the emergence of a more fundamental “epigenetics” research effort of the UAG, funded by the Fonds National pour la Recherche Scientifique and the European Union.

Michel Georges has been actively involved in the development of the new GIGA-research center of the ULg, regrouping teams from the Faculty of Sciences, Medicine, Veterinary Medicine and Engineering. This initiative led to new research projects including the genetic dissection of Crohn’s disease funded by the Walloon Region, resulting in 2007 and 2008 in the discovery of several novel susceptibility genes.

In 2007, Michel Georges was awarded the Wolf Prize Agriculture.

\* \* \*

### ***Report of the Jury (May 2, 2008)***

The 2008 Francqui Price in Biological and Medical Sciences is awarded to **Michel Georges** for his outstanding contributions to deciphering the genetics of complex traits. Michel Georges has been a world leader in animal genetics and genomics for the last 20 years and his contributions are a major advance in the field. He has developed strategies and methods to reveal genes that control simple monogenic traits, such as inherited disorders, as well as complex multifactorial traits such as muscle growth and milk yield in livestock species. These methods are also applicable to complex disorders in humans, like Crohn’s disease and schizophrenia.

**Michel Georges** has pursued these studies all the way from identifying genes to the molecular mechanisms that underlie important traits in livestock species. Most recently, he has discovered mutations in non-coding DNA that affect the expression and action of microRNA and thereby controls muscle growth in sheep. These mutations do not change the identity of the protein but rather where, when or how much protein is made.

The work of **Michel Georges** is important for the livestock industry. Development of genetic tools and strategies for animal breeding will improve production efficiency.

With increasing demand for livestock products worldwide, the ability to rapidly exploit natural genetic variation in a responsible manner flows directly from Michel Georges' work. Moreover, his work is a wonderful example of comparative genomics with broad implications for general biology and human medicine.

Jury members :

**Professor Sir R. Tim Hunt, FRS - Noble Prize Medicine 2001**

Cell Cycle Control Laboratory  
London Research Institute  
United Kingdom

*Chairman*

and

**Professor Dr. Leif Andersson**

Department of Biochemistry and Microbiology  
Uppsala University  
Sweden

**Professor Dr. Christine Clerici, MD.**

Hôpital Bichat-Claude Bernard  
Paris, France

**Professor Dr. Andrew McMichael, FRS, MD**

Weatherall Institute of Molecular Medicine  
John Radcliffe Hospital  
Oxford, United Kingdom

**Professor Dr. Hugh Pelham, FRS**

Director, MRC Laboratory of Molecular Biology  
London, United Kingdom

**Professor Dr. Hidde Ploegh**

Whitehead Institute for Biomedical Research  
Professor of Biology  
Massachusetts Institute of Technology  
Cambridge, U.S.A

**Professor Dr. Christian Haass**

Laboratory for Alzheimer's and Parkinson's  
Disease Research  
Ludwig-Maximilians Universität München  
Germany

**Professor Dr. Dennis Selkoe, MD**

Vincent and Stella Coates Professor of Neurological Diseases  
Harvard University  
Brigham and Women's Hospital  
Boston, U.S.A.

\* \* \*

