



Annual Report

2011

ANNUAL REPORT 2011

CONTENTS

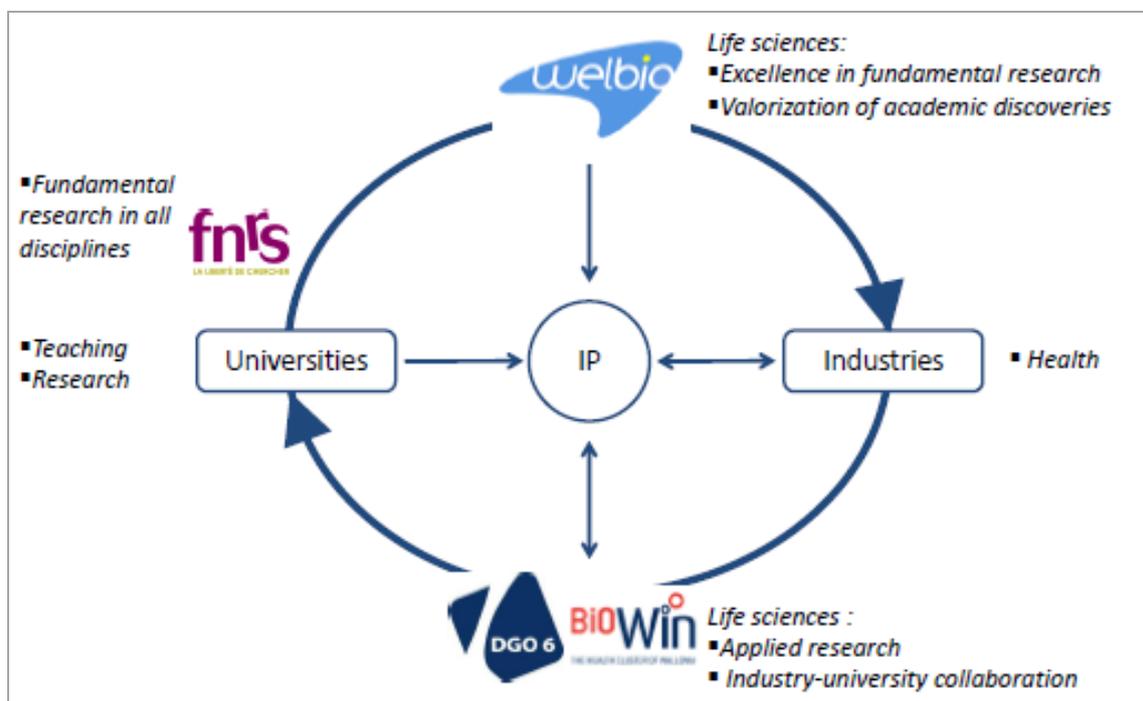
INTRODUCTION	3
RESEARCH PROGRAMMES.....	4
WELBIO INVESTIGATORS AND THEIR TEAMS.....	5
SCIENTIFIC PUBLICATIONS.....	6
VALORIZATION OF ACADEMIC RESULTS.....	7
ABOUT WELBIO	8
ADMINISTRATIVE AND FINANCIAL RESOURCES.....	9
WELBIO CONTACT DETAILS.....	12

INTRODUCTION

WELBIO was founded on 12 December 2008 at the initiative of the Walloon Government. Its mission is to support “*excellence in research upstream of the Marshall Plan, leading to new and significant discoveries capable of generating future applications**” in the field of life sciences and biotechnology. In 2009, WELBIO established its administratively independent structure and set out its cooperation agreement with the Belgian university academies. In 2010, WELBIO appointed its Managing Director and issued its first and highly successful call for projects, with 87 applications received.

A new milestone was reached in 2011, with the start of the first 15 WELBIO research programmes. WELBIO’s research teams comprise 130 people, 41 of whom are subsidised by WELBIO. In the first 12 months since they started, these innovative fundamental research projects in the field of life sciences have already generated more than ten publications in prestigious journals such as *Nature* and *Cell Stem Cell*. 2011 was also marked by the establishment of individualized support for WELBIO researchers in order to develop the valorization potential of their fundamental research projects.

Three years after the publication of the Walloon Government memorandum defining the principle behind the creation of WELBIO, the institute thus fits between “*general university-based scientific research on the one hand, and the existing players in oriented research and development in the Walloon Region on the other**”.



*Walloon Government memorandum of 12 December 2008, available in French at <http://welbio.org>

RESEARCH PROGRAMMES

WELBIO programme selection is based on a rigorous evaluation procedure founded on excellence, performed by international experts. As the Walloon Government highlights, “A rigorous selection and evaluation procedure, performed by external experts and based on excellence, is one of the principles behind the success of institutes that perform particularly well, such as the VIB in Flanders, the ERC, the Netherlands Cancer Institute, the Dana Farber Cancer Institute (Boston) and the MRC Laboratory of Molecular Biology (Cambridge)”.

The WELBIO evaluation and selection procedure is the responsibility of its international Scientific Council [Profs. Arnold (DE), Bradley (UK), Chambon (FR), Hofmann (DE), Klein (SE), Simpson (UK) and Wilkinson (UK)]. The first step consists of individual, independent evaluations performed for all eligible projects by international scientific experts. The Scientific Council draws up a shortlist of projects on the basis of these evaluations. It then meets to establish an order of priority for the shortlisted projects. Finally, the prioritised shortlist is submitted to the Governing Board for a funding decision.

2011-2013 Programmes

Cédric Blanpain (ULB)

Stem cells and skin cancer.

Alain Chariot (ULg)

Study of the roles of IKK ϵ in breast cancer.

Jean-François Collet (UCL)

Gram-negative bacterial envelope assembly mechanisms.

Pierre Coulie (UCL)

Functions of intratumoral lymphocytes.

Carine Maenhaut (ULB)

Molecular characterisation of physiopathology and progression of thyroid cancers.

Pierre Maquet (ULg)

Characterisation of genetic determinants of resistance to sleep deprivation.

Laurent Nguyen (ULg)

Molecular regulation of cerebral cortical neurogenesis.

Etienne Pays (ULB)

Cellular functions and medical applications of apolipoproteins L.

Pierre Roger (ULB)

Regulation of CDK4 and CDK6 kinases in cell proliferation and cancer.

Stéphane Schurmans (ULg)

Analysis of the tumour suppressor role of a new gene implicated in acute leukaemia.

Benoît Van den Eynde (UCL)

Study of surface antigen presentation mechanisms in cancer cells.

Pierre van der Bruggen (UCL)

Roles of galectins in the immune system.

Emile Van Schaftingen (UCL)

Faulty metabolite repair, a new view of enzyme specificity.

Pierre Vanderhaeghen (ULB)

Induced pluripotent stem cells for studying the mechanisms of brain development.

Miikka Vakkula (UCL)

Identification of new lymph/angiogenic genes using next-generation sequencing technology.



WELBIO INVESTIGATORS AND THEIR TEAMS

WELBIO investigators

In 2011, two WELBIO investigators were awarded prestigious scientific honours, highlighting the excellence of their work:



The 2011 Francqui Prize, awarded to Dr Vanderhaeghen (ULB). This annual prize recognises the achievements of a young Belgian scientist, particularly in the field of biological and medical sciences, and confers indisputable prestige, underscored by the fact that the Prize is presented by King Albert II of Belgium.

<http://www.francquifoundation.be/>

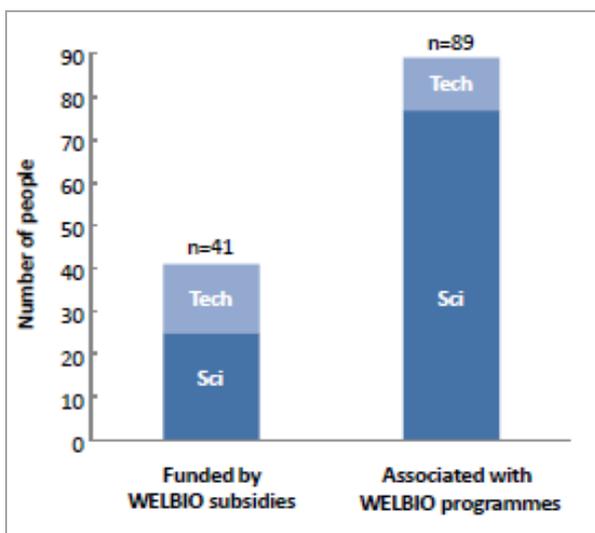


The 2011 Clerdent Prize, awarded to Dr Maquet (ULg). This triennial prize worth €400,000 is awarded to support medical research into human neurological diseases. The Foundation's first triennial prize went to Dr Vanderhaeghen in 2008.

http://www.ulg.ac.be/cms/c_1489709/remise-du-prix-de-la-fondation-clerdent

The research teams

WELBIO's research teams comprise 130 people, 41 of whom are subsidised by WELBIO. Most team members are scientists (Sci), supported in their work by laboratory technicians (Tech). WELBIO subsidies have been used, in particular, to recruit scientists from international institutions, such as Dr Cho of Harvard Medical School.



Dr Cho of Harvard Medical School (Boston, USA), was recruited by Dr Collet (UCL) in March 2011 thanks to WELBIO funding.



Dr Collet comments: *“Dr Cho brings considerable experience to my WELBIO programme on the fundamental biochemical and microbiological mechanisms that enable bacteria to defend themselves against external attack”.*

SCIENTIFIC PUBLICATIONS

More than ten publications appeared in 2011 in prestigious journals such as *Nature* and *Cell Stem Cell*, which have an impact factor greater than 10, and in other excellent journals such as *J. Biol. Chem.* and *Oncogene*, which have an impact factor greater than 5.

Driessens G & Blanpain C. Long live Sox2: Sox2 lasts a lifetime. **Cell Stem Cell** (2011) 9:283-284.

Beck B, Driessens G, Goossens G, Kass Youssef K, Loges S, Caauwe A, Kuchnio A, Sotiropoulou PA, Candi A, Mascré M, Haigh JJ, Carmeliet P, and Blanpain C. The vascular niche and a VEGF/Nrp1 loop regulates the initiation and stemness of skin tumours. **Nature** (2011) 479:189-193.

Van Keymeulen A, Rocha AS, Ousset M, Beck B, Bouvencourt G, Rock J, Sharma N, Dekoninck S & Blanpain C. Distinct stem cells contribute to mammary gland development and maintenance. **Nature** (2011) 478:399-403

Leverrier P, Declercq JP, Denoncin K, Vertommen D, Hiniker A, Cho SH, Collet JF. Crystal structure of the outer membrane protein RcsF, a new substrate for the periplasmic protein disulfide isomerase DsbC. **J Biol Chem** (2011) 286:16734-16742

Floor S, van Staveren W, Larsimont D, Dumont JE, Maenhaut C. Cancer stem cells in epithelial mesenchymal transition and tumor-propagating cancer stem cells: distinct, overlapping or same populations. **Oncogene** (2011) 30:4609-4621

Westerlund N, Zdrojewska J, Padzik A, Komulainen E, Björkblom B, Rannikko E, Tararuk T, Garcia-Frigola C, Sandholm J, Nguyen L, Kallunki T, Courtney MJ, Coffey E. Phosphorylation of SCG10/stathmin-2 determines multipolar stage exit and neuronal migration rate. **Nat Neurosci** (2011) 14:305-313

Beukelaers P, Vandenbosch R, Caron N, Nguyen L, Belachew S, Moonen G, Kiyokawa H, Barbacid M, Santamaria D, Malgrange B. Cdk6-Dependent Regulation of G(1) Length Controls Adult Neurogenesis. **Stem Cells** (2011) 29:713-724

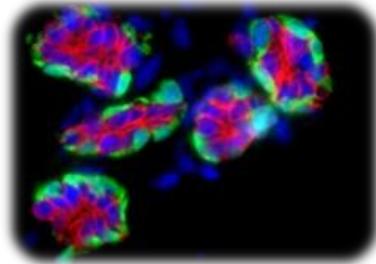
Coulonval K, Kooken H, Roger PP. Coupling of T161 and T14 phosphorylations protects cyclin B-CDK1 from premature activation. **Mol Biol Cell** (2011) 22:3971-3985

Marbaix AY, Noël G, Detroux AM, Vertommen D, Van Schaftingen E, Linster CL. Extremely conserved ATP- or ADP-dependent enzymatic system for nicotinamide nucleotide repair. **J Biol Chem** (2011) 286:41246-52.

Linster CL, Noël G, Stroobant V, Vertommen D, Vincent M-F, Bommer GT, Veiga-da-Cunha M, Van Schaftingen E. Ethylmalonyl-CoA decarboxylase, a new enzyme involved in faulty metabolite repair. **J Biol Chem** (2011) 286:42992-3003.

Pietri S, Dimidschstein J, Tiberi L, Sotiropoulou PA, Bilheu A, Goffinet A, Achouri Y, Tissir F, Blanpain C, Jacquemin P, Vanderhaeghen P. Transcriptional Mechanisms of EphA7 Gene Expression in the Developing Cerebral Cortex. **Cereb Cortex** (2011) Epub ahead of print

Pansuriya TC, van Eijk R, d'Adamo P, van Ruler MAJH, Kuijjer ML, Oosting J, Cleton-Jansen AM, van Oosterwijk JG, Verbeke S, Meijer D, et al. Somatic mosaic IDH1 or IDH2 mutations are associated with enchondroma and spindle cell hemangioma in Ollier disease and Maffucci syndrome. **Nat Genet** (2011) 43:1256-61.



In a study published in **Nature**, researchers led by Dr Blanpain (ULB) identify the duality of the role of VEGF in the regulation of cancer stem cells and tumour growth.

VALORIZATION OF ACADEMIC RESULTS

One of WELBIO's original features is the management of *"the entire chain from pre-translation research to transferring research results into industry"*. As a result, individualized support for WELBIO investigators was set up in 2011 in order to develop the valorization potential of their fundamental research projects.

This individualized support is provided by WELBIO as part of its cooperation agreement with the Belgian university academies and in conjunction with the technology transfer offices at the host universities.

This individualized support scheme includes the following:

- WELBIO regularly meets up with individual WELBIO investigators to detect results with valorization potential and ensure that the intellectual property rights to the results are protected.
- WELBIO organises valorization committee meetings in order to set out a general valorization strategy for WELBIO programmes and ensure the development of intellectual property.
- WELBIO uses a variety of tools and mechanisms present in the Walloon Region, as recommended in the Walloon Government memorandum of 12 December 2008:
 - The WELBIO investigator and his or her team ensure the traceability of their research by using the laboratory notebooks published by the **LIEU network** [Business-University Liaison] (<http://www.reseaulieu.be>).
 - The WELBIO investigator is made aware about searching patent databases as part of the collaboration between WELBIO and the not-for-profit association **PiCarré** (<http://www.picarre.be>).
 - WELBIO interacts with the **BIOWIN** (<http://www.biowin.org>) and **WAGRALIM** (<http://www.wagralim.be>) competitive clusters for early assessment of the potential for developing intellectual property.

In conclusion, the support given to WELBIO investigators from the outset of their project means that the valorization process and the scientific work of the fundamental research programme can take place simultaneously. Therefore, the valorization process can no longer be seen as slowing down scientific progress, as can sometimes still be the case, but as an integral part of it, providing the link between fundamental research and its impacts on society.

**Walloon Government memorandum of 12 December 2008, available in French at <http://welbio.org>*

ABOUT WELBIO

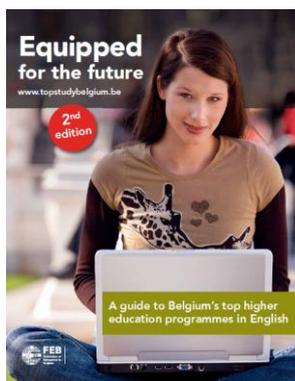


“VIB and WELBIO

Belgian universities are federated within institutions that bring together virtually all stakeholders in the sector. The two most important are VIB and WELBIO. ...

WELBIO is a new initiative that demonstrates the dynamism and the networking strengths of Belgian universities. Combining the three Walloon academies, the agency's mission is to support the biotechnology sector in Wallonia by training scientists and by speeding effective launch of discoveries. €15 million was released to launch the initiative, and the first call for proposals was a great success.”

The full brochure is available on the Belgian Foreign Trade Agency website at http://www.abh-ace.be/fr/binaries/BIOTECH_WEB_tcm449-131446.pdf



“Equipped for the future: A guide to Belgium’s top higher education programmes in English.”

*“WELBIO is an **inter-university research institute** based in Wallonia, Belgium. WELBIO aims at promoting scientific excellence in **fundamental life sciences** research and translating scientific achievements in medical, pharmaceutical and veterinary **biotechnology applications**. WELBIO was founded on June 2009 as a non-profit association with its registered office in Liège. Through its first call for projects in 2010, WELBIO supports **15 research programmes** within the three Walloon academies. Additional programmes will be funded through further calls for projects. The*

*WELBIO programmes provide opportunities for **PhD and post-doctoral fellows** to participate in innovative research in life sciences.”*

The full brochure is available on the Federation of Belgian Enterprises website at http://vbo-feb.be/media/uploads/public/custom/publication_free_of_charge/TopStudyBelgium_Highereducation2011.pdf

ADMINISTRATIVE AND FINANCIAL RESOURCES

Governance at WELBIO

The Governing Board consists of representatives from academia, industry and government. The Board is chaired by Jean Stéphane, with Jacques Dumont as Vice-Chairman. The composition of the Board is as follows:

Representatives of the Walloon Government:

- Philippe Busquin, Minister of State
- Marcel Crochet, Honorary Rector, Université catholique de Louvain
- Benoît Bayenet, Representative of the Office of Minister Marcourt

Representatives of the economic and industrial sector with an interest in life sciences:

- Jean Stéphane, Chairman and President, GlaxoSmithKline Biologicals
- Roch Doliveux, CEO, UCB
- Jean-Pierre Delwart, CEO, Eurogentec SA

Representatives of French-speaking university academies

- Jacques Dumont, Professor, Université libre de Bruxelles (Wallonia-Brussels Academy)
- Louis Hue, Professor, Université catholique de Louvain (Louvain Academy)
- Pierre Lekeux, Professor, Université de Liège (Wallonia-Europe Academy)

Representative of FNRS

- Véronique Halloin, Secretary-General, Fonds de la Recherche Scientifique (FNRS)

Representative of SPW/DG06

- Yves Sennen, Director-General, represented by Pierre Villers, Inspector-General

Government Commissioner

- Yves Cenné, Finance Inspector

Guest

- Amélie Servotte, Representative of the Office of Minister Nollet

Management report

Preamble

- This is the second financial year, covering the period between 1 January 2011 and 31 December 2011.
- Although WELBIO is considered to be a small not-for-profit association in accordance with the Law of 2 May 2002, double entry accounts are kept.
- WELBIO's evaluation rules specify that subsidies are assessed based on cleared received amounts.

Assets

- Tangible fixed assets total EUR 871.61 and consist of IT equipment.
- Financial assets total EUR 3,450.00 and consist of the security deposit for rented office space in Wavre.
- Cash investments total EUR 4,794,538.51.
- Available cash totals EUR 363,187.70.
- Adjustment accounts total EUR 42,291.70, distributed as follows:
 - Costs carried forward: EUR 1,438.58
 - Interest on cash investments: EUR 40,853.12
- Total assets come to EUR 5,204,339.52

Liabilities

- Permanent cash receipts total EUR 7,500,000, distributed as follows:
 - Research fund subsidies: EUR 5,000,000
 - Sofipôle subsidies: EUR 2,500,000
- Loss carried forward totals EUR 2,325,749.29, and is broken down as follows:
 - Profit for the 2010 financial year: EUR 15,659.14
 - Loss for the 2011 financial year: EUR 2,341,408.43
- Accounts payable total EUR 4,239.62
- Invoices receivable total EUR 672.50
- Outstanding wage tax totals EUR 3,983.51
- Outstanding social security contributions total EUR 4,448.59
- Provisions for holiday pay total EUR 17,417.09
- Total liabilities come to EUR 5,204,339.52

ANNUAL REPORT 2011

Result

- Members' contributions total EUR 300.00.
- Claim declarations accepted and paid total EUR 2,247,130.08.
- Miscellaneous goods and services total EUR 49,855.36, and consist mainly of fees.
- Remuneration and social security contributions total EUR 136,496.08.
- Depreciation totals EUR 963.31.
- Net bank interest, after the deduction of 15% of advance levies on income derived from securities, totals EUR 93,013.80, of which EUR 40,853.12 is accrued interest receivable from cash investments.
- Financial costs total EUR 277.40.
- The result for the financial year is a loss of EUR 2,341,408.43.

ANNUAL REPORT 2011

WELBIO CONTACT DETAILS

Address

WELBIO a.s.b.l.
6, Avenue Pasteur
1300 Wavre, Belgium
Tel.: +32 (0)10 68 63 55
Fax: +32 (0)10 68 63 63
E-mail: info@welbio.org

Registered office

1, Avenue de l'Hôpital
4000 Liège, Belgium
Trade Register: Liège 0812 367 476

Website

www.welbio.org

