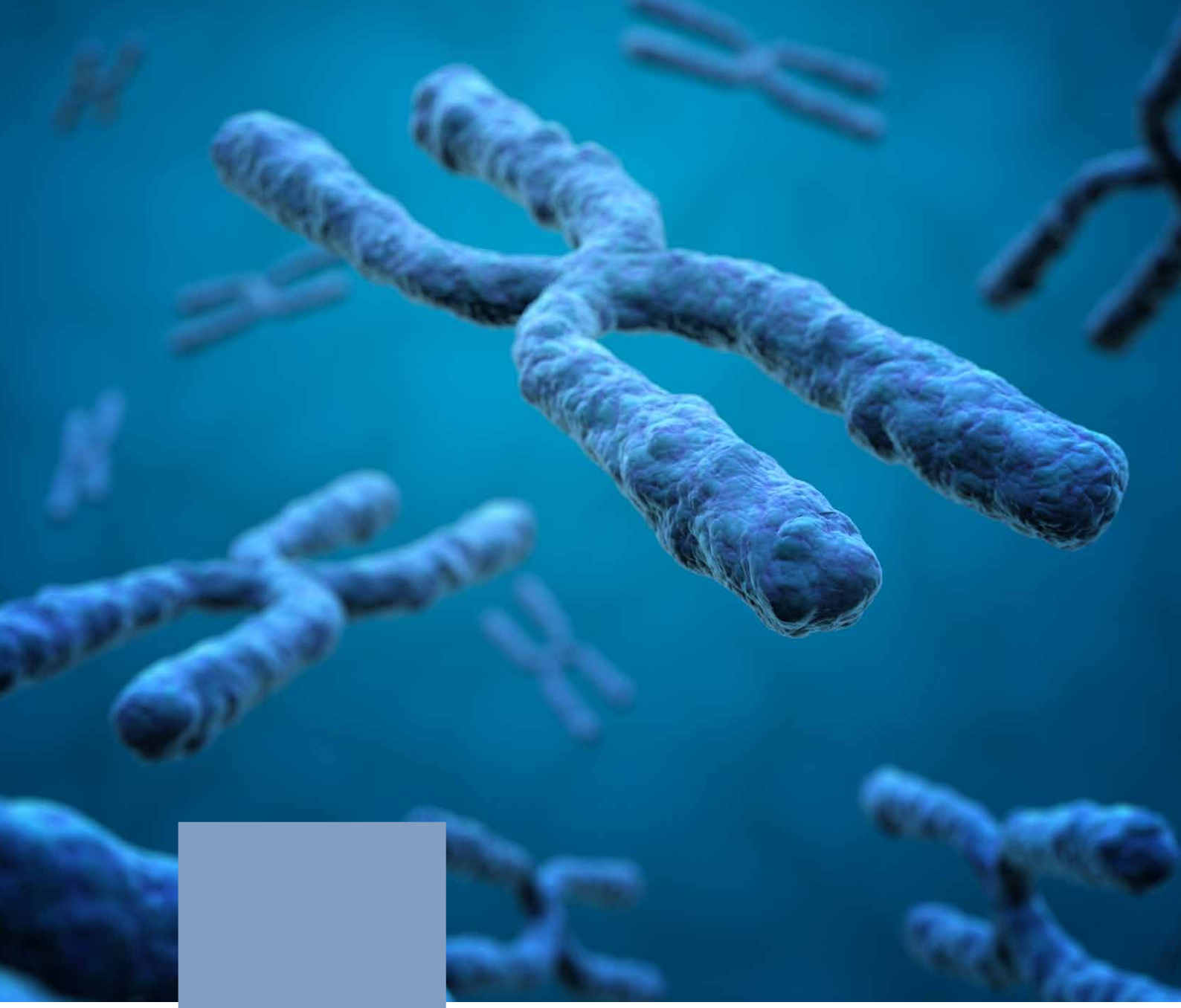

ANNUAL REPORT 2021

welbio
Walloon Excellence in Life sciences

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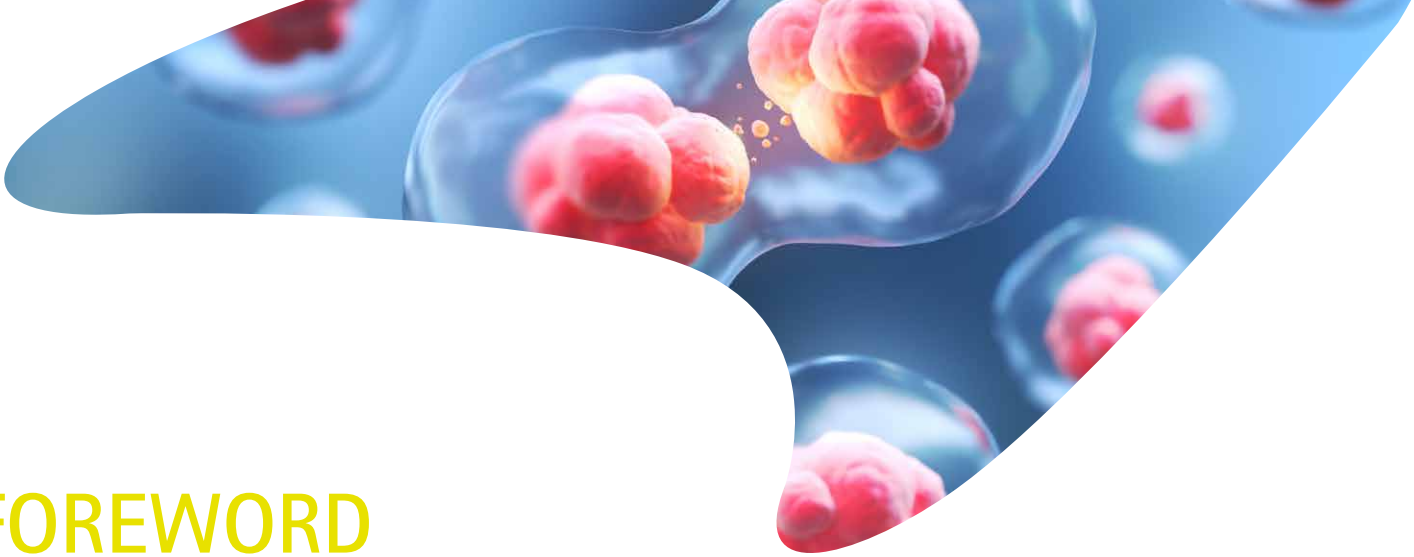


FOREWORD

WELBIO is an inter-university research institute subsidized by Wallonia.
Its missions are to support fundamental research in life sciences and to promote the industrial valorization of scientific discoveries into biomedical applications.

DOUBLING THE SUPPORT TO SCIENTIFIC EXCELLENCE

Great news for WELBIO in 2021! As part of its strategic plan to boost research, the Walloon government decided to double the annual financial resources of WELBIO, bringing them to 15 million euros starting in 2021. Through this expanded support, the Region encourages WELBIO to continue *"contributing to the smart specialization strategy of Wallonia and, in particular, to the strategic innovation domain in Health"*, as mentioned by the Minister of the Economy Willy Borsus.

The reinforcement of WELBIO's financial resources was accompanied by a revised strategy for WELBIO, based on funding research teams rather than one-off projects, with an ambitious perspective of valorising results.

This revised funding strategy was at the core of the 6th call launched in October 2021. A record number of applications was received compared to previous calls, with 85 proposals from 5 universities from the Wallonia-Brussels Federation. Results will be published in May 2022 after selection by an international and independent scientific committee organized in partnership with the FNRS. Selected WELBIO Investigators should demonstrate a combination of scientific excellence, an awareness of unmet medical and/or technological needs in their field, and a willingness of seeking opportunities to translate discoveries into potential industrial applications.

DOUBLING THE NUMBER OF SPIN OFFS

To promote the industrial valorization of scientific discoveries, WELBIO took the stance from inception to meet regularly with the WELBIO Investigators, in partnership with the Technology Transfer Offices from their respective academic institution, to discuss scientific progresses. This aims at early detection of intellectual property and facilitating the translation of scientific discoveries into human applications. This resulted in a progressive build of valorization opportunities that are taking many forms including projects supported by the competitiveness clusters and SPW Research in Wallonia, licensing agreements, industry partnerships, and spin-off creation.

In 2021, two WELBIO Investigators at an early career stage, who both received a WELBIO Starting Grant in 2017 and an ERC grant, demonstrated that scientific excellence could be combined with entrepreneurship by creating 2 spin offs:

- NeuVasQ was created in February 2021 by Benoît Vanhollebeke (ULB). It is a drug discovery company that aims at restoring the integrity of the Blood-Brain-Barrier in numerous neurological pathologies such as neurodegenerative diseases (Alzheimer's, etc.) and various acute neurological disorders (stroke, epilepsy, etc.).
- Santero Therapeutics was founded in April 2021 by Abel Garcia-Pino (ULB). It is a platform to develop a new class of antibiotics for a targeted approach against antibiotic resistant bacteria (ESKAPE).

These two new spin offs join ChromaCure created in 2018 by Cédric Blanpain (ULB) and Gepeceron founded in 2020 by Marc Parmentier (ULB) in the portfolio of spin offs created by WELBIO Investigators.

KEY FIGURES
SINCE FIRST CALL IN 2010

82 M€
INVESTED IN RESEARCH
SINCE 2011

5
CALLS FOR PROJECTS

SCIENTIFIC EXCELLENCE

630
PUBLICATIONS
INCLUDING

240
ARTICLES
IN PRESTIGIOUS
JOURNALS

12
ERC GRANTS

RESEARCH PROJECTS

65
RESEARCH PROJECTS

47
PRINCIPAL
INVESTIGATORS

INCLUDING
19
EARLY-CAREER
INVESTIGATORS

4
UNIVERSITIES

TRANSLATION OF SCIENTIFIC DISCOVERIES INTO APPLICATIONS

PATENT APPLICATIONS
FOR
17
INVENTIONS

4
SPIN OFFS

1
LICENCE

3
INDUSTRIAL
COLLABORATIONS

SCIENTIFIC EXCELLENCE

BY THERAPEUTIC AREA

Our researchers published 70 articles in 2021; including 45% in the most prestigious journals such as Gut, Molecular Cancer, Molecular Cell, Blood, N Engl J Med, Cell Metabolism, Nature Communications, Science, Translational Medicine, Nature Communications and Science Advances. Here is a selection of articles to illustrate the internationally recognized groundbreaking work conducted by WELBIO Principal Investigators in several fields of life sciences.

ONCOLOGY

Tumor driver promoting EMT, metastasis and resistance to therapy

Cancer metastasis is the leading cause of mortality in cancer patients. FAT1 is among the most frequently mutated driver genes in a broad range of human cancers, however its role in cancer is poorly understood. Here, Cédric Blanpain (ULB) and his team demonstrated, for the first time, that loss of FAT1 promoted tumour initiation, progression, invasiveness, stemness and metastasis through the induction of a hybrid epithelial-to-mesenchymal transition state in skin squamous cell carcinoma (the second most frequent cancer in humans), lung cancer (the deadliest cancer), and head-and-neck tumors.

Pastushenko et al, 2021, Nature

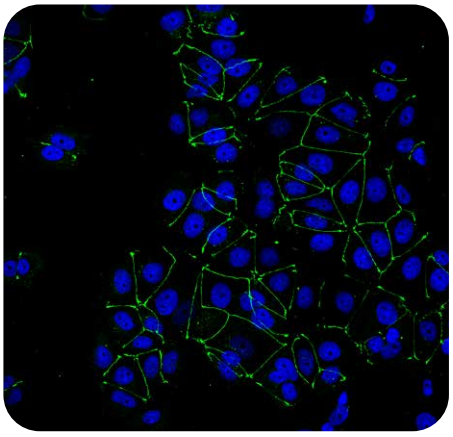
Cancer and malignant transition: a key factor identified

Researchers led by Cedric Blanpain (ULB) used a combination of state-of-the-art genetic models to assess the role of NR2F2 in mouse and human skin cancer. They discovered the molecular mechanisms by which NR2F2 regulates malignant tumour progression and growth. Inactivation of NR2F2 blocked the progression from benign to malignant tumours and suppressed essential tumour functions, leading to tumour regression. Bridging basic science and innovation, this promising target for new anti-cancer therapies is being developed by the spin-off ChromaCure.

Mauri et al, 2021, Nature Cancer

A dual role for COP1 in breast cancer

Triple-negative breast cancers (TNBC) lack the estrogen receptor ERα and therefore cannot be treated with tamoxifen, an anti-estrogenic drug. Alain Chariot (ULiège) and his team explored how ERα expression is regulated in breast cancer to better understand why ERα is lost in the most aggressive forms. This mechanistic study revealed that COP1 could act as an oncogenic E3 ligase by promoting ERα signaling but also as a tumor suppressor candidate by preventing epithelial-mesenchymal transition, which indicated a dual role of COP1 in breast cancer. These findings are clinically relevant as COP1 and ERα levels were positively correlated in human cases of breast cancer.



Tang et al, 2021, Oncogene

Nanobiophysical approach offers new perspectives for oncolytic cancer therapy

As the appearance of breast cancer is often associated with the appearance of extracellular markers, David Alsteens (UCLouvain) hypothesized that the latter could be used to better target therapeutic agents such as oncolytic reoviruses. Using nanobiophysical approaches, his team demonstrated that overexpression of α-sialylated glycans in breast cancer could provide a unique opportunity to combat cancer cells with oncolytic reoviruses. Notably, a correlation between cellular glycan expression and the mechanical properties of reovirus attachment and infection was observed in a serotype-dependent manner, offering a new perspective in oncolytic cancer therapy.

Mohammed et al, 2021, Nano Letters

RNA epigenetics as a key regulator of cancer metastasis

The team led by François Fuks (WELBIO – ULB) analyzed data from thousands of cancer patients and discovered that the enzyme FTO, a regulator of RNA epigenetics, was present at lower levels in cancers than in healthy tissues. Low FTO levels correlated with more aggressive tumors, metastasis and earlier death, together with increased mRNAs belonging to the Wnt signaling programme known to promote metastasis. In vitro, using Wnt inhibitors currently in clinical development, the researchers observed that cancer cells with lowered FTO levels, and enhanced Wnt activity, were more sensitive to these Wnt inhibitors. Thus, although FTO-low tumors are more aggressive and deadly, they are potentially more sensitive to Wnt inhibitor therapy.

Jeschke et al, 2021, Nature Cancer

Wobble transfer RNA modifications optimize dynamic proteome expression

In this study, Pierre Close (ULiège) and his team postulated that wobble uridine tRNA modification (U34-TM) was a new regulatory pathway in cancer. The team discovered that gene codon content was necessary, but not sufficient, to predict protein fate upon loss of U34-TM enzymes. Additionally, protein specific hydrophilic motifs caused protein aggregation and degradation upon codon-dependent translation elongation defects. This study uncovered new mechanisms linking tRNA regulation to proteome homeostasis and allowed a better definition of the proteins with expression and maintenance relying on U34-TM. Defining the specific requirement of U34-TM in protein expression is essential to understanding the apparent specificity in the importance of this pathway in biological (and clinical) contexts

Rapino et al, 2021, Nature Communications

CARDIOMETABOLIC DISEASES

Autoimmune diseases, similar molecular signatures in target tissues?

Deicio Eizirik (ULB) and his team evaluated, based on available RNA sequencing data, whether inflammation induced similar molecular signatures at the target tissues in type 1 diabetes, systemic lupus erythematosus, multiple sclerosis and rheumatoid arthritis. The team identified confluent signatures, many related to interferon signaling, indicating pathways that may be targeted for therapy, and observed a high (>80%) expression of candidate genes for the different diseases at the target tissue level. These observations suggest that future research on autoimmune diseases should focus on both the immune system and the target tissues, and on their dialog. Discovering similar disease-specific signatures may allow the identification of key pathways that could be targeted for therapy.

Szymczak et al, 2021, Science Advances

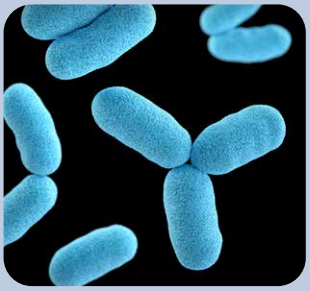
D. welbionis: potential implications for metabolic diseases

In this study, that made the cover of Gut, the team of Patrice Cani (UCLouvain) studied the role of *D. welbionis* in the organism. Through the analysis of 12,000 samples from around the world, the scientists observed that the bacterium was present in 70% of the population, but to a lesser extent in patients with type 2 diabetes. In mouse models, the bacterium increased the number of mitochondria thereby lowering sugar levels and weight, in addition to having strong anti-inflammatory activity. These properties have potential for the treatment of type 2 diabetes and obesity. In addition, select molecules produced by *D. welbionis* circulate in the body with actions beyond the gut. This opens the doors for a possible impact on additional diseases such as inflammation and cancer.

Le Roy et al, 2021, Gut

A new bacterium, "made in" Belgium

Patrice Cani (UCLouvain) and his team first published in 2019 the identification of a newly discovered bacterium that they named *Dysosmobacter welbionis. D. welbionis* represents both a brand new bacterial genus and species. The species name welbionis is derived from WELBIO. The genus name *Dysosmobacter* means "bad-smelling rod", owing to the smelly nature of the rod-shaped microbe.



D. welbionis was isolated during a project aimed at investigating the link between gut microbes and metabolism. Like its sister species, *D. welbionis* produces butyrate, a type of short-chain fatty acid considered vital to maintaining a healthy gut. These types of butyrate-producing bacteria are increasingly being looked at for next-generation probiotics because of their anti-inflammatory properties.

Le Roy et al, 2020, International Journal of Systematic and Evolutionary Microbiology

Gut microbes participate in food preference alterations during obesity

Obesity is associated with a dysregulation of the dopaminergic reward system. This hypofunctioning of the dopamine pathway has been suggested to feed the vicious circle of weight gain since it leads to an increase in the meal size of palatable food in an attempt to feel the same rewarding effect as before the development of obesity. The team of Amandine Everard (UCLouvain) demonstrated for the first time the implications of gut microbiota in the regulation of the reward pathway and hedonic aspects of food intake in mice. These data also revealed the causal role of gut microbiota modifications associated with obesity into the dysregulations of the dopaminergic reward system and the hedonic food intake during obesity. Therefore, these results provided evidence that the gut microbiota could be an interesting therapeutic target to tackle hedonic food intake alterations related to obesity.

de Wouters d'Oplinter et al, 2021, Gut Microbes

MICROBIOLOGY & INFECTIOUS DISEASES

An old fold can learn new tricks

Toxin-antitoxin (TA) systems are a class of highly diverse small operons found in bacterial genomes. TAs have a broad range of functions, including bacterial defense against bacteriophages. Through a collaborative effort, the group of Abel Garcia-Pino (ULB) discovered multiple families of small RSH enzymes acting as toxins of TA modules, and is now proposing a novel mechanism of growth arrest used by four experimentally unexplored subfamilies. Surprisingly, all these toxins, that likely evolved from an ancestral long RSH gene, specifically inhibit protein synthesis. The remarkable evolution of some of these TA modules seems to recreate the opposing activities of the housekeeping long RSH enzymes.

Kurata et al, 2021, Molecular Cell

A magic alarmone to rescue hungry bacteria

Amino acid starvation is sensed in bacteria by long stringent factors (Rel and RelA) of the RSH superfamily. Their activation results in the synthesis of the 'magic spots' alarmones (p)ppGpp which, in turn, positively regulates them to facilitate an acute response to stress. The group of Abel Garcia-Pino (ULB) discovered the elusive molecular bases of the allosteric regulation of stringent factors by 'magic spots' which are more complex than initially thought. The team identified the layers of regulation constituting molecular checkpoints to ensure both fidelity (through two layers of auto-inhibition) and responsiveness (through a positive feed-forward activation loop) of long stringent factors-mediated response to starvation.

Roghanian et al, 2021, Molecular Cell

Molecular insights into receptor binding of SARS-CoV-2 variants

Binding between SARS-CoV-2 spike protein (receptor binding domain (RBD)) and the ACE2 receptor at the surface of host cells is the first step in viral infection. Using atomic force microscopy and molecular dynamics, David Alsteens (UCLouvain) and his team investigated how the mutations in various SARS-CoV2 variants affected the kinetics and structural properties of this first binding step. The researchers demonstrated that these variants, although having arisen independently, evolved in such a way as to stabilize the contact interface between the RBD and the ACE2 receptor. This work revealed broader features of the importance of mutations for RBD binding to the ACE2 receptor that are relevant to the evolution of SARS-CoV-2.

Koehler et al, 2021, Nature Communications

Disorder required for orderly lipoprotein sorting

Gram-negative bacteria express structurally diverse lipoproteins in their cell envelope. The team of Jean-François Collet (UCLouvain) showed that half of lipoproteins destined to the *Escherichia coli* outer membrane displayed an intrinsically disordered linker at their N-terminus and that this linker was required for normal targeting and transport. Overall, this study revealed the role played by intrinsic disorder in lipoprotein sorting, providing mechanistic insight into the biogenesis of these proteins and suggesting that evolution could select for intrinsic disorders that support protein function.

El Rayes et al, 2021, Nature Chemical Biology

RECOGNITION OF WELBIO PRINCIPAL INVESTIGATORS

Scientific advances achieved by WELBIO Investigators are the results of many years of research. The fact that WELBIO Investigators have received prestigious scientific awards year after year is a testimony to the excellence of their work. In 2021,

David Alsteens (UCLouvain) received the FNRS prize of the Centre d'études Princesse Joséphine-Charlotte for scientific research against viral infections.

Cédric Blanpain (ULB) received the European Association for Cancer Research's Mike Price Gold Medal Award, a biennial award recognizing a senior researcher who made exceptional contributions to the progress of cancer research in Europe.

Jean-François Collet (UCLouvain) was awarded the Joseph Maisin Scientific Prize, the FNRS quinquennial prize for an outstanding researcher from the Wallonia-Brussels Federation in the field of basic biomedical sciences. The ceremony took place in the presence of H.M. the King. Jean-François Collet was also elected Associated Member of the Royal Academy of Medicine.

Stefan Constantinescu (UCLouvain) was awarded the triennial prize of the Alexandre and Gaston Tytgat Foundation for the progresses made by his team in cancer research.

Decio Eizirik (ULB) was ranked in the top 3 worldwide experts in Islets of Langerhans during the last decade by Expertscape.

Sophie Lucas (UCLouvain) was awarded the 2021-2022 Chaire Francqui at the University of Namur.

Benoît Vanhollebeke (ULB) received the Ernest Solvay Prize of the Queen Elisabeth Medical Foundation for his work in the field of neurosciences.

Miikka Vikkula (UCLouvain) was awarded an International Network of Excellence Grant from the Leducq Foundation and will lead, as the European Coordinator, this programme in the field of cardiovascular research.

Sophie Lucas (UCLouvain) and **Agnès Noël (ULiège)** were selected to join AcademiaNet, an international network that highlights the careers of outstanding women researchers and facilitates access to knowledgeable female experts.

10 WELBIO Investigators obtained an **EOS (Excellence of Science)** research grant from the FNRS/FWO, which promotes joint research projects between the French- and Flemish-speaking communities of Belgium.

Cédric Blanpain (ULB):
Cell-cell cOmmuNicaTion As a driver of Cancer cell state identiTy - Decoding the impact of cell-cell communications on the identity of tumor states in skin cancers.

Patrice Cani (UCLouvain) & **Alain Chariot (ULiège)**:
Host-microbe interaction in intestinal homeostasis: unravelling the mechanisms involved in the onset of multiple inflammation-related diseases.

Pierre Close (ULiège) & **François Fuks (ULB)**:
Tricking tumor immunosuppression: RNA epigenetics as novel target to improve cancer immunotherapy.

Régis Hallez (UNamur):
deCiphering bacterial peRsIsTence of Individual Cells down to Atomic Level.

David Alsteens (UCLouvain):
Prepared for SARS-CoV-3: advancing our understanding of SARS coronavirus antigenic and pathogenic evolution.

Pierre Coulie (UCLouvain):
Exploring the mechanisms of RESponse and RESistance to novel Cancer immunotherapies in tumors Unresponsive to Earlier immune checkpoint inhibition.

Agnès Noël (ULiège) & **Sophie Lucas (UCLouvain)**:
Understanding and tackling the spatio-temporal changes of the metastatic lymph node epicenter.

TRANSLATION OF SCIENTIFIC DISCOVERIES INTO HUMAN APPLICATIONS

GENERATING INTELLECTUAL PROPERTY

WELBIO meets regularly with the WELBIO Principal Investigators and members of the Technology Transfer Offices from their respective academic institution to discuss scientific progresses. This aims at early detection of intellectual property. In 2021, 4 new patent applications were filed, bringing the total of active patent applications generated by WELBIO research projects to 18. The following have been published:

WO/2014/037460:
Immobilised Cyclindependent Kinase 4 Fusion proteins and uses thereof

WO/2015/015003:
Anti-GARP protein and uses thereof

WO/2017/198685:
Method for determining sensitivity to a CDK4/6 inhibitor

WO/2018/138358:
PERK and IRE-1A inhibitors against neuro-developmental disorders

WO/2018/167312:
Detection, quantification and/or isolation of circulating tumour cells based on the expression of CD321 marker

WO/2019/175380:
Antigenic peptides deriving from Secretogranin V and uses thereof for the diagnosis and treatment of type-1 diabetes

WO/2019/202149:
Sglt2 inhibitors for the treatment of neutropenia

WO/2019/207057:
Combination of metformin and cyclophosphamide as an adjuvant in cancer immunotherapy

WO/2020/011856:
Dysosmobacter, a novel bacterial genus of the gastrointestinal microbiota and uses thereof

WO/2020/083982:
Guanabenz as an adjuvant for immunotherapy

WO/2020/221888:
Cystic Fibrosis Transmembrane Conductance Regulators Stabilizing Agents

CREATION OF 2 SPIN OFFS

NeuVasQ: An innovative approach to fight against neurovascular and neurodegenerative diseases

NeuVasQ was founded based on new insights into the molecular mechanisms maintaining the integrity of the blood-brain barrier (BBB) generated by the laboratory of Benoit Vanhollebeke (ULB). The BBB regulates the exchange between the vascular system and central nervous system (CNS). Increased BBB permeability, due to age or injury, is involved in many neurological conditions through the leakage of harmful blood substances into the CNS. BBB dysfunction is a factor in many neurodegenerative disorders, such as Alzheimer's, as well as multiple acute neurological conditions like stroke and epilepsy.

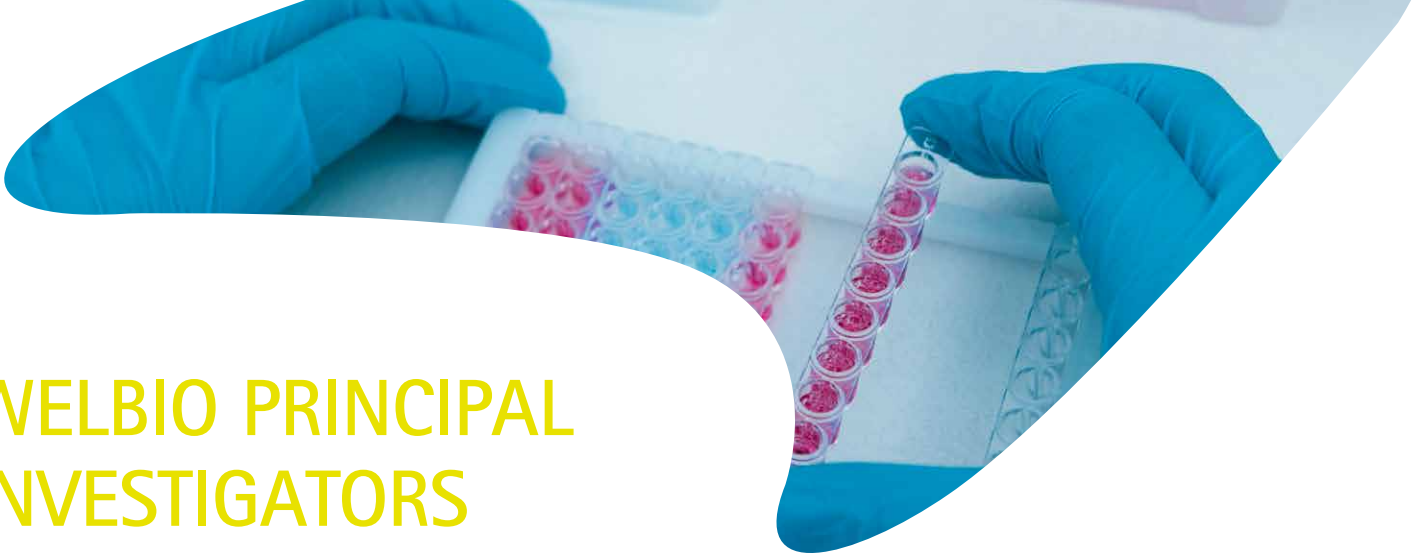
With its EUR 20 million Series A, NeuVasQ aims at identifying the most promising indications for clinical trials, focusing on a range of neurodegenerative disorders and acute neurological disorders. As part of these exploratory studies, NeuVasQ will also consider various innovative therapeutic modalities, including gene and mRNA therapy.

Santero Therapeutics: A new generation of antibiotics

Every year, more than 750.000 people die from an infection that resist currently available drugs. The development of antibiotics in the 1940's radically changed healthcare and greatly improved life expectancy. However, the last generation of truly new antibiotics was discovered about 40 years ago, thus enabling the emergence of resistant bacteria throughout the world. In the absence of truly innovative therapies, the situation is bound to get worse: current forecast predict that 10 million people will die from resistant infection by 2050. Therefore, there is a crucial need to develop new approaches to treat severe infections for which we are running out of pharmacological tools while preventing new resistances.

The spin-off builds on recent advances in the laboratory of Abel Garcia-Pino (ULB), in collaboration with Cédric Govaerts (ULB), in the understanding of the fundamental mechanisms of bacterial metabolism to propose a completely innovative approach to develop a new generation of antibiotics.

> **"The word Santero is a nod to my origins as it refers to the traditional healers in the Cuban culture"**
>
> mentioned Abel Garcia-Pino, who was born in Cuba before coming to Belgium for his Ph.D., and eventually settling there.



WELBIO PRINCIPAL INVESTIGATORS AND THEIR TEAMS

STARTING GRANTS

Starting grants support talented early-career scientist (maximum 12 years post-PhD at the time of funding application). With this funding category, WELBIO aims at jump starting career development for promising junior scientists. About a third of currently active WELBIO projects are Starting grants:

David Alsteens (UCLouvain): Deciphering the molecular mechanisms of reovirus and rotavirus entry at the nanoscale.

Benjamin Beck (ULB): Characterization of the molecular core of esophageal cancer.

Guido Bommer (UCLouvain): Novel biochemical aspects of neurodegeneration in Parkinson's disease.

Pierre Close (ULiège): Translation reprogramming through wobble tRNA modification in cancer.

Amandine Everard (UCLouvain): Identification of gut microbes and metabolites involved in the gut-to-brain axis controlling hedonic and reward system during food intake.

Abel Garcia-Pino (ULB): Cellular and molecular bases of the regulation of bacterial persistence by (p)ppGpp synthetases/hydrolases.

Esteban Gurzov (ULB): Early diagnosis: can protein tyrosine phosphatase activity predict obesity-induced hepatocellular carcinoma?

Régis Hallez (UNamur): Molecular characterization of the cellular processes targeted by the second messenger (p)ppGpp in bacteria.

Thomas Marichal (ULiège): Epithelial cells as master regulators of mucosal homeostasis: unraveling the regulatory role of Rab guanine nucleotide exchange factor-1 (RABGEF1).

Benoît Vanhollebeke (ULB): Deciphering the regulatory mechanisms of blood-brain barrier function.

ADVANCED GRANTS

Advanced grants support established investigators:

Jean-Luc Balligand (UCLouvain): Cardiac Aquaporin-1: a new regulator of myocardial remodeling.

Luc Bertrand (UCLouvain): CARdiovascular DIseases and o-GlcnAcylatioN: the case of cardiac hypertrophy.

Stefan Constantinescu (UCLouvain): Targeting mechanisms of pathogenic mutant calreticulin signaling via thrombopoietin receptor and JAK2 in myeloproliferative neoplasms.

Pierre Coulie (UCLouvain): Cytolytic CD8 T lymphocytes in severe forms of human autoimmune diseases, towards diagnostic markers and new therapeutic avenues.

François Fuks (ULB): Unravelling the role of RNA epigenetics in health and disease.

Sophie Lucas (UCLouvain): Targeting TGF-β1, β2 or β3 activation in auto-immunity and graft-versus-host disease.

Anna Maria Marini (ULB): Rh factors and the control of membrane permeability to ammonium.

Agnès Noël (ULiège): Innovative roles of uPARAP in lymphatic vessel morphogenesis and functions.

Pierre van der Bruggen (UCLouvain): At the crossroads of cancer and autoimmunity: novel therapeutic targets on exhausted human T cells.

CONTINUATION GRANTS

Continuation grants are awarded to WELBIO Principal Investigators whose Starting or Advanced grants led to identification of intellectual property and a plan towards its valorization.

Cédric Blanpain (ULB): Mechanisms controlling epithelial–mesenchymal transition related tumor heterogeneity.

Patrice Cani (UCLouvain): Targeting NAPE-PLD, novel bioactive lipids and specific gut microbes to improve cardiometabolic disorders associated with obesity.

Alain Chariot (ULiège): tRNA modifying enzymes and their targets in immunity and cancer.

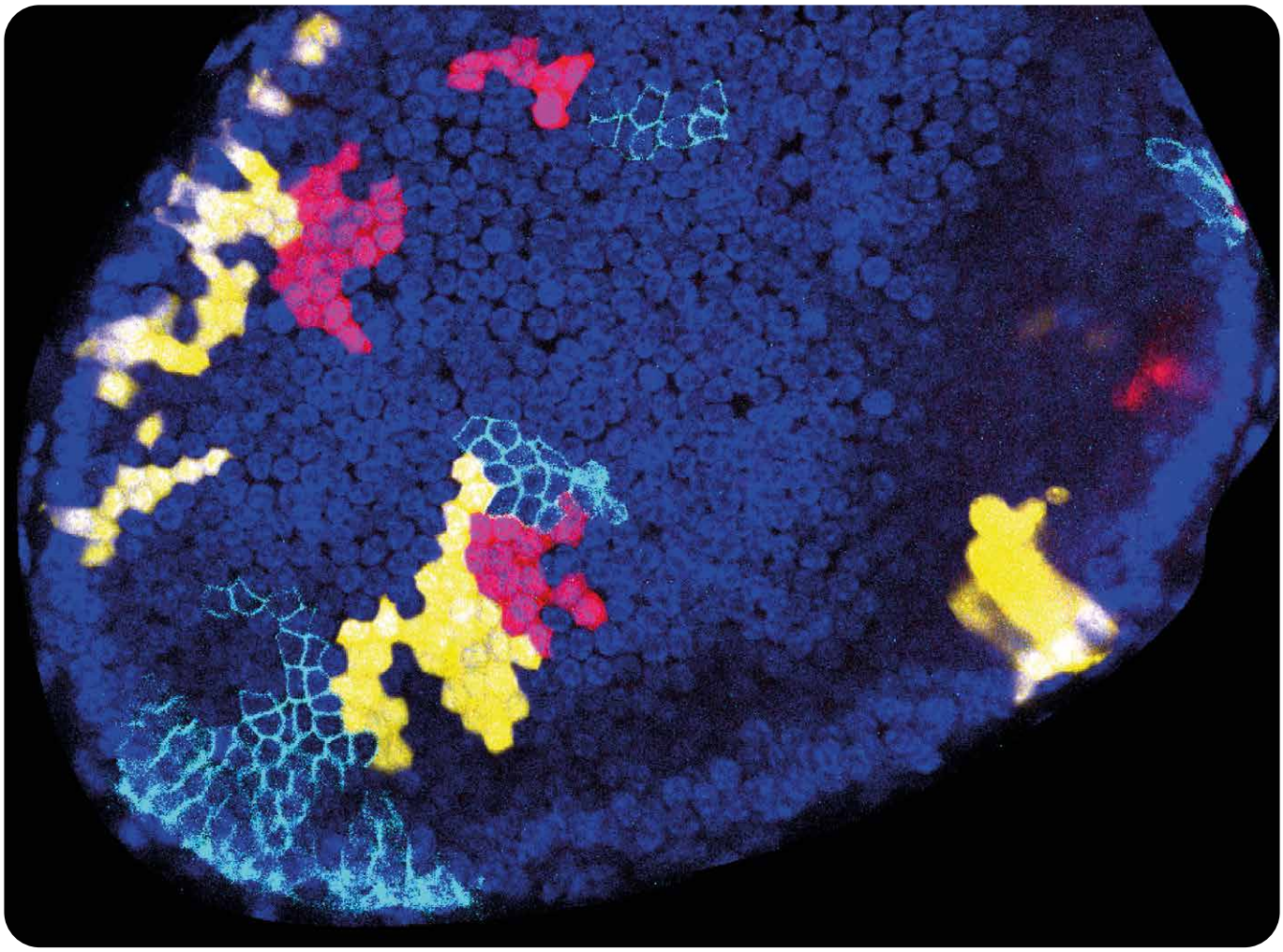
Jean-François Collet (UCLouvain): Exploring the cell envelope of *Escherichia coli*, a compartment that is an attractive target for innovative biotechnological and biopharmaceutical approaches.

Decio Eizirik (ULB): Beta cell splicing signature in diabetes.

Marc Parmentier (ULB): Chemerin and its receptors in tumoral angiogenesis.

Benoît van den Eynde (UCLouvain): Identification and characterization of new cancer immunotherapy targets discovered by in vivo genomic pool screening.

Miikka Vikkula (UCLouvain): Towards novel treatments for primary lymphedema: from identification of genetic causes to in vivo modelling and preclinical trials.



ADMINISTRATIVE AND FINANCIAL RESOURCES

GOVERNANCE OF WELBIO ASBL

The Board of Directors is composed of representatives from academia, industry and the government. The Board is chaired by Jean Stéphenne, with Pierre Lekeux as Vice Chair. The composition of the Board is as follows:

Representatives of the Walloon Government:

- **Christopher Sortino,** Research advisor, representing the Minister-President
- **Vinciane Grimard,** Advisor, representing the Minister for the Economy
- **Emmanuël Sérusiaux,** representing the Minister for Research and Innovation

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

- **Jean Stéphenne,** Board member of several biotech companies
- **Jean-Christophe Tellier,** CEO, UCB
- **Philippe Denoël,** Head of External R&D, GSK Vaccines
- **Frédéric de Sauvage,** Vice-Président, Genentech

Academic experts who are internationally recognized in the field of life sciences:

- **Pierre Lekeux**, Professeur, ULiège
- **Emile Van Schaftingen,** Professeur, UCLouvain
- **Gilbert Vassart,** Professeur, ULB

Representatives from the universities in the French Community of Belgium:

- **Fabrice Bureau,** Vice-Rector of Research, ULiège
- **Jean-Christophe Renauld,** Prorector of Research, UCLouvain
- **Oberdan Leo,** Vice-Rector of Research and Regional Development, ULB

Ex officio

- **Véronique Halloin,** General Secretary, Scientific Research Fund (FNRS)
- **Isabelle Quoilin,** Managing Director, Walloon Public Service for the Economy, Employment and Research (SPW EER)

WELBIO: THE LIFE SCIENCE AXIS FOR THE FUNDS FOR STRATEGIC FUNDAMENTAL RESEARCH

The decree of 4 December 2012 established a reciprocal collaboration between the French Community of Belgium and the Walloon region to support strategic fundamental research. The next step was taken in 2016, with the creation of the FRFS (Strategic Fundamental Research Funds) within the FNRS and the integration of the WELBIO institute, a delegate of Wallonia, as the strategic axis for life sciences. The goal was to leverage the FNRS' expertise in the management of call for projects and to focus WELBIO's activities on promoting the translation of scientific discoveries into biotechnology applications.

MANAGEMENT REPORT

This report concerns the 11th fiscal year, which covers the period from 1 January 2021 to 31 December 2021.

Since 2015, the funding of research programmes has been outsourced to the FNRS within the framework of the FRFS. WELBIO, as a Platform for Animation and Valorisation (PAVA), receives an annual funding equal to 10% of the total funding of the WELBIO strategic axis, after subtracting the sums intended for the FNRS funding (up to 4%).

For the financial year 2021, an amendment to the FNRS-WELBIO agreement was signed on 12 October 2021 and is applicable to the funding allocated for the FRFS-WELBIO strategic axis in 2021 as follows:

- The "PAVA Amount" corresponds to 9.6% of the total annual funding paid to the FNRS for the FRFS-WELBIO. The 2021 subsidy for the FRFS-WELBIO being €14,500,000 in accordance with the Walloon Government Decrees of 14 March 2019, 10 December 2020, and 7 October 2021, the "PAVA Amount" for 2021 amounted to €1,392,000.
- WELBIO submitted a declaration of claims to the FNRS in the amount of €285,000.00 to cover the costs incurred by the implementation of the PAVA activities of WELBIO for the period from 01/01/2021 to 31/12/2021.
- The "PAVA BALANCE", corresponding to the difference between the "PAVA Amount" and the claim declaration, therefore amounts to €1,107,000. This amount remained on the account of the FNRS, allocated to the FRFS-WELBIO.

WELBIO has published its annual accounts with the National Bank of Belgium since the 2017 financial year. Although WELBIO can be considered as a micro non-profit organization, it has not opted for a simplified accounting system and has decided to maintain the publication of its annual accounts with the National Bank of Belgium.

ASSETS

- Tangible fixed assets amount to €0.00 and relate to computer equipment.
- Financial fixed assets amounted to €3,450.00 and concerned the guarantee on rented offices in Wavre.
- Accounts receivable within one year amounted to €29,924.00 and consisted of a 20% working capital advance on the Bridge Fund BF-2021-01 research agreement.
- Cash investments amounted to €2,476,850.22 in the form of two reserves to distribute the remaining liquidity of WELBIO.
- These liquid cash sums were allocated as follows:

Operating costs (2022)	€394,400.00
Bridge fund	€2,082,450.22
	€2,476,850.22

- A BPAID account has been created to cover various small expenses and the remaining balance is €148.15.
- Adjustment accounts amounted to €5,185.90 and concerned charges that were to be carried forward.
- Total assets amounted to €2,515,558.27.

LIABILITIES

- The balance as of December 31st, 2020, under the heading of "other allocated funds", amounted to €2,425,866.93.
- The result for the fiscal year was a profit of €47.565,32.
- The balance as of December 31st, 2021, for other allocated funds, amounted to €2,473,432.25.
- Supplier debts amount to €23,539.39 and consist of €10,407.31 of trade payables and €13,132.08 of an invoice receivable.
- The estimated tax liability for 2021 is €170.52.
- Provisions for holiday payments amount to €17,563.96.
- Other debts amount to €50.00 and relate to an administrator current account of € 50.00.
- Adjustment accounts amount to €802.15 and relate to expenses to be charged.
- Total liabilities amounted to €2,515,558.27.

RESULT

- The grant for 2021 operating costs amounted to €285,000.00.
- Membership dues were received for a total amount of €75.00.
- Miscellaneous services and assets amounted to €60,854.06 and primarily concern operating costs, rent and fees.
- Salaries and social contributions amounted to €161,464.93.
- The estimated tax liability amounted to €170.52.
- Net bank interest, after withholding tax, amounted to €329.18.
- Financial charges amounted to €2,020.38.
- The result for the fiscal year is a profit of €47,565.32.

CONTACT

HEADQUARTER

WELBIO non-profit organisation
Avenue Pasteur, 6
1300 Wavre (Belgium)
Tel : +32 (0)10 68 63 55
Email: info@welbio.org
Trade register: n° 0812 367 476

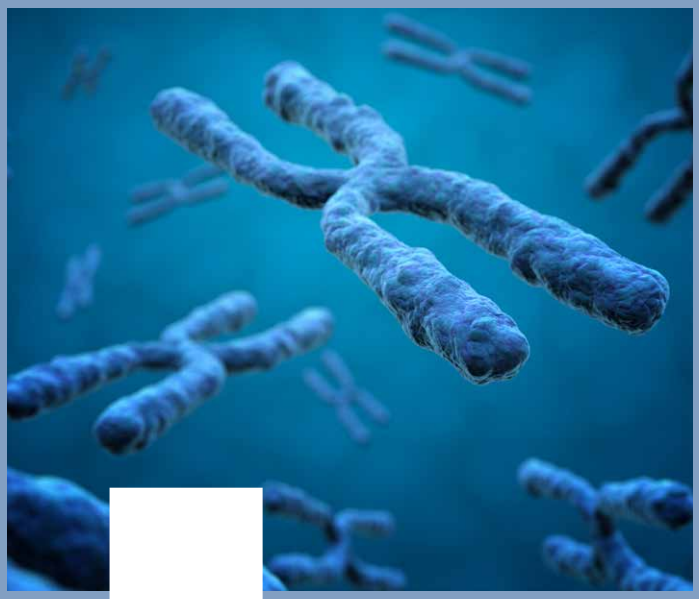
MANAGING DIRECTOR

Vinciane Gaussin, PhD
Tel : +32 (0)10 68 63 55

WEBSITE

http://welbio.org

NOTES



ANNUAL REPORT 2021

WELBIO
Avenue Pasteur, 6 • 1300 Wavre (Belgium)
+32 (0)10 68 63 55 • info@welbio.org
www.welbio.org

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