

Annual Report 2014

From science to value for society



2014

was a successful year for VIB

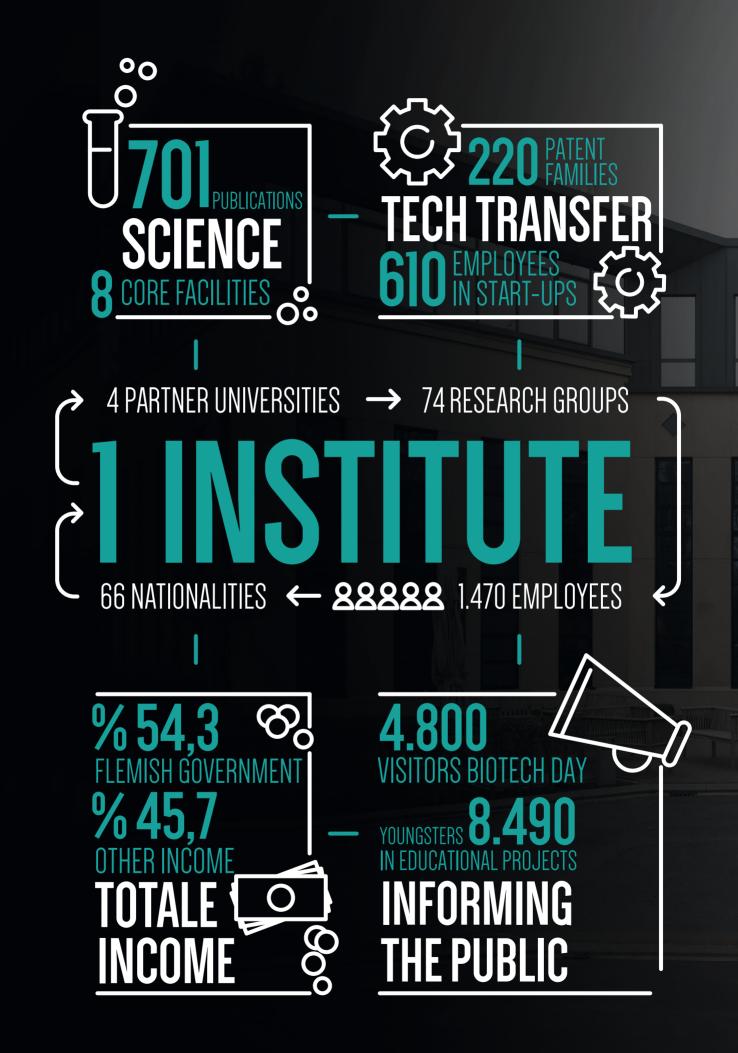
The research conducted by our scientists ranks among the world's best and has resulted in publications in the top 5% of scientific journals across the world. In total, 216 papers were published in 'Tier 5' journals (journals with the highest impact in their field) in 2014. This confirms that we are widely acknowledged as a center of excellence in the field of life sciences. Our researchers are constantly obtaining better insights into the role molecular mechanisms play in living beings. In addition, we also succeed in translating our research results into new pharmaceutical, agricultural and industrial applications.

The nature of the scientific publications demonstrates that our research covers the entire spectrum of life sciences. We obtain excellent research results in plant biology, immunology and inflammatory diseases, neuroscience, cancer biology, cardiovascular research, protein research and microbiology. Combining a multidisciplinary approach with emerging technologies has contributed largely to these results.

We do not engage in research for the sake of research itself; realizing social and economic added value through innovative research is equally important. The number of VIB start-ups is a clear indicator of this. In total, we have set up 14 companies that employ around 610 people and involve collective capital investment of approximately 570 million euros. In addition, we see to it that intellectual property rights are actively protected with patent applications. We also place great value on intensive collaboration with the industry; this translates into 130 industrial research and licensing agreements in 2014.

To increase VIB visibility and to engage the general public, we communicate openly and organize several events. Our Biotech Day in 2014 was a huge success and attracted about 4,800 enthusiastic visitors who came to discover the 'Magic of Biotechnology' at the Technologiepark in Ghent. In addition, scientific audiences are catered for in our international conferences, which attract the world's top speakers to Flanders.

The results of the past year reinforce our position as a center of excellence and we are confident that VIB will continue to flourish.



VIB in a nutshell

Conducting basic research in life sciences – that is the heart and core of VIB. Our researchers push the boundaries of what we know about molecular mechanisms and how these mechanisms regulate living beings such as people, animals, plants and micro-organisms. Our technology transfer team ensures that the research results are then translated into new economic activities, which, in turn, lead to new products that are applied in various sectors, including medicine and agriculture.

Communicating transparently about what we do is key. That is why we provide scientifically founded information that is accessible to various target groups, from patients, through politicians, to an extensive field of nonspecialists. We keep all interested parties informed on the most important developments in the field of life sciences.

Our mission and core values

It is our mission to conduct pioneering biomolecular research in life sciences. By doing so, we encourage sustainable scientific progress and contribute to a better world.

We strive for excellence in all our research areas and stimulate our scientists and employees to be creative, entrepreneurial and think 'out of the box'. Our focus on innovative technologies, ensures that our research is genuinely groundbreaking. Scientifically founded and transparent communication contributes to the credibility of our institute and creates social involvement.



Milestones

The research domain of our scientists covers a broad spectrum of disciplines. In 2014, many results of VIB research were published in leading international, scientific journals such as Nature, Cell and so on. The summaries below provide an overview of the wide range of research that has been published:

in research



Plant biology

New protein complex shows the way

An international group of scientists under the leadership of Daniël Van Damme and Geert De Jaeger have identified a new protein complex that forms the basis of the endocytosis process in plants. During this process membrane material that needs to be "recycled", including membrane-associated proteins, is removed from the plasma membrane. The protein complex (TPLATE complex) fulfils a key role at the moment when the endocytosis process begins. In an evolutionary sense, this discovery is notable as this complex has only retained its essential function in plants.

Gadeyne et al., Cell 2014

The secret of regulatory networks in plants unraveled

Understanding how the transcription of genes is regulated remains one of the most important, strategic processes in plant biotechnology. Klaas Vandepoele and colleagues analyzed the data from various plant varieties in order to investigate the organization and evolutionary properties of the regulatory networks in plants. Furthermore, they also outlined many condition-dependent interactions. This knowledge provides new possibilities for systematically determining the functions of regulatory genes in plants.

Lindemose et al., Nucleic Acids Research 2014 *Van De Velde et al.,* Plant Cell 2014 *Heyndrickx et al.,* Plant Cell 2014



Immunology

A fine line between cell survival and cell death

Nozomi Takahashi and Peter Vandenabeele have discovered that the RIPK1 protein plays a crucial role in keeping our intestinal wall in good condition. The intestinal epithelium of the intestinal wall regulates the absorption of nutrients and protects the human body from harmful bacteria. RIPK1 functions as a platform and a kinase. The platform function takes care of cell survival; the kinase function does the same for the death of intestinal cells. Keeping the intestinal epithelium intact demands a strict regime that is only possible as a result of maintaining a subtle balance between cell renewal, cell survival and cell death. The body cannot function effectively if too many cells die but, if too few cells die, it could result in cancer. This insight is important for the treatment of chronic intestinal infections, such as Crohn's disease.

Takahashi et al., Nature 2014

'Unfolded protein response' as control mechanism for our immune system

Fabiola Osorio, Simon Tavernier, Sophie Janssens and Bart Lambrecht have demonstrated how our immune system is influenced by a process known as UPR, the 'Unfolded Protein Response'. If there are too many unfolded proteins present in a cell, a very fundamental cell biological process is triggered in order to restore balance. Our researchers discovered that this process also leads to the activation of dendritic cells, the cells in our immune system that are the first to respond to substances that are alien to our body. Further research is needed to demonstrate whether intervention in this UPR activity could improve the effectiveness of vaccines.

Osorio et al., Nature immunology 2014

The role of inflammasomes in rheumatoid arthritis and its treatment

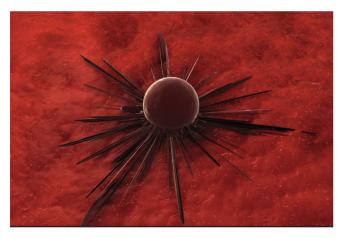
Rheumatoid arthritis (RA) is a disease in which inflammation affects the joints. It can lead to disability and is not easy to treat. Research carried out on mice by Mohamed Lamkanfi and Lieselotte Vande Walle has shown that inflammasomes, i.e. protein complexes that form part of our immune system, play a role in the creation and evolution of RA. Their research also suggests that RA is a syndrome rather than a disease; in other words, similar symptoms can have various root causes. It is therefore important that the right cause can be traced in order to treat the problem effectively.

Vande Walle et al., Nature 2014

Mast cells have no impact on the development of type I diabetesI

Type 1 diabetes develops when the immune system breaks down insulin-producing cells in the pancreas. As a result, the body cannot create the insulin that is required to keep blood sugar levels in check. For patients, this means a daily injection of insulin for the rest of their lives. Previous research had established that 'mast cells' play an important role in the formation of type 1 diabetes. However, Adrian Liston and scientists from Germany and the US have now demonstrated that this is not the case and that mast cells can be ruled out as a possible therapeutic target in the quest for treatments for type 1 diabetes. They were able to demonstrate this in obese, non-diabetic mouse models that they developed independently of one another.

Gutierrez et al., Diabetes 2014



Cancer research

Malaria medicine chloroquine inhibits tumor growth and metastases

The fact that the malaria medicine chloroquine, in combination with conventional chemotherapy, has an anti-cancer effect in laboratory animal models has been known for some time. Further research conducted by teams of scientists from VIB and KU Leuven has now shown that chloroquine also normalizes abnormal blood vessels in a tumor. The repair of blood vessels increases the barrier function, which inhibits the metastasis of cancer cells, on the one hand and, on the other hand, it improves blood circulation in the tumor thus increasing the effectiveness of chemotherapy. The provision of chloroquine can stifle the metastasis of cancer cells at a very early stage and this is the most beneficial treatment for tumors.

Maes et al., Cancer cell 2014



Neurosciences

Breakthrough that could lead to a new approach to Parkinson's research

Neuroscientists Vanessa Morais, Patrik Verstreken, Kris Gevaert and Bart De Strooper have demonstrated how a defect in the Pink1 gene can lead to Parkinson's disease. The research exposed the molecular processes that are responsible for the defective energy production in the cells of Parkinson's patients. The researchers have thus provided evidence of the link between both processes. Restoring this energy production in cells could be a possible therapeutic strategy for the disease. Further laboratory research will need to be conducted to establish whether this discovery could lead to a new treatment for Parkinson's in the long term.

Morais et al., Science 2014

Crucial role of FMRP in the embryonic development of the cerebral cortex

Fragile-X syndrome (FXS), the most common hereditary form of mental disability, is caused by a lack of the protein FMRP (Fragile X Mental Retardation Protein) or errors in the production thereof. Claudia Bagni and her colleagues have now demonstrated that FMRP plays an important role in the embryonic development of the cortex. The cerebral cortex is the area in the brain where information from the rest of the body is received, analyzed and interpreted. The information is then converted into thoughts and concrete instructions for the body. The researchers have demonstrated that a lack of FMRP leads to delays in the development of the cerebral cortex which, in turn, impacts upon life just after birth and the 'fine-tuning' of the brain. The next challenge is to understand how these deficiencies can be tackled just after birth.

La Fata et al., Nature Neuroscience 2014

How does our brain link external information to internal perceptions?

NERF scientists have demonstrated that a small part of our brain, the habenula, forms a circuit of brain cells that exercise a kind of 'access control' function on sensory information and, in this way, adapts our behavior to external influences. Emre Yaksi, Suresh Kumar Jetti and Nuria Vendrell-Llopis integrate neurobiology and nanotechnology to study brain functions in detail. This multidisciplinary approach enables the researchers to further investigate the individual brain cells. It also provides new tools for examining neural networks and establishing the connection with behavior. The brain structure in zebra fish was examined for this study as these animals are a useful model organism for brain research. Their research not only demonstrated that the habenula functions as a kind of switchboard, but also that 'switching' is not random but takes place in a very structured manner.

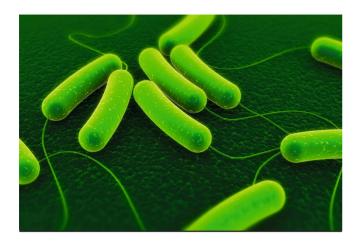
Jetti et al., Current Biology 2014

"The nature of the scientific publications demonstrates that our research covers the entire spectrum of life sciences."

What role does miR-I37 play in the formation of psychiatric disorders?

Research by Mojca Strazisar and Jurgen Del Favero has provided important indications that demonstrate that a small part of RNA could be the cause of certain psychiatric disorders. In brief, miR-137 is a short, non-coded RNA molecule that regulates the expression level of other genes on the basis of various mechanisms. The scientists involved in this research found two variants of miR-137 in psychiatric patients. A detailed functional analysis demonstrated that both variants lead to a greatly reduced presence of the miR-137 RNA molecule in cells that contain these variants. This reduced miR-137 expression results in disruption in the genes that are involved in the creation of synapses, the contact point between two nerve cells, and the transfer of signals (neuronal transmission), both of which can be linked to psychiatric disorders.

Strazisar et al., Molecular Psychiatry 2014



Protein research

New technology simplifies production of biotech medicines

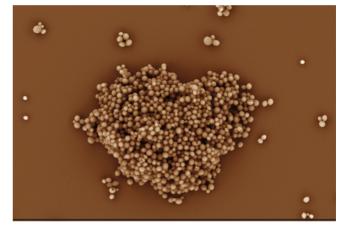
The final step in the production of a biotech medicine is finalizing the appropriate sugar structure. This step is vital for the effectiveness of the medication. The proteins in biotech medicines are produced by living cells; as a result, the uniformity of the medicine's sugar structure is difficult to predict. Leander Meuris, Francis Santens and Nico Callewaert, in collaboration with the biotech company NovImmune, have developed a technology that shortens the sugar structures and enables therapeutic effects to be retained. This technology could significantly simplify the production of biotech medicines and also make them cheaper.

Meuris et al., Nature Biotech 2014

New insights into survival strategies of bacteria

Bacteria are exceptionally ingenious when it comes to survival strategies. They often hide in a biofilm – a layer of microorganisms surrounded by a mucus they produce from sugar chains and curli (protein fibers) – to protect themselves from a hostile environment, e.g. during treatment with antibiotics. For the first time, Parveen Goyal and Han Remaut have used x-ray crystallography to create a detailed three-dimensional image of the pores through which the curli building blocks find their way through the cell wall of the bacteria, a crucial step in the formation of the protective layer of mucus. As well as providing fundamental insights, in the long term this work could lead to new substances that prevent the formation of biofilm and also many useful applications for curli, such as their use for waste water purification and the conversion of biofuels.

Goyal et al., Nature 2014



Yeast research

Reaction of yeast cells to amino acids in their environment varies

Yeast cells are useful for a range of applications. They are used, for example, for the production of beer and bread, but also bio-ethanol. And, as a result of their similarities with human cells, they are also used as model organisms for the study of biological processes that also affect humans. Griet Van Zeebroeck and Johan Thevelein investigate how yeast cells react to nutrients in their environment. In this context, yeast cells use so-called 'transceptors' that are capable of detecting, contacting and absorbing substances such as amino acids, which are the building blocks of proteins. This process goes hand in hand with a signal from the transceptor that food is nearby, followed by the breakdown of the transceptor. The scientists have now been able to



demonstrate that various amino-acids or analogues elicit different reactions in the transceptors. The research has shown that the absorption of a nutrient by a transceptor must lead to a series of consecutive structural changes in order to initiate a specific process in the cell.

Van Zeebroeck et al., Molecular Microbiology 2014

Flies function as taxi for yeast cells

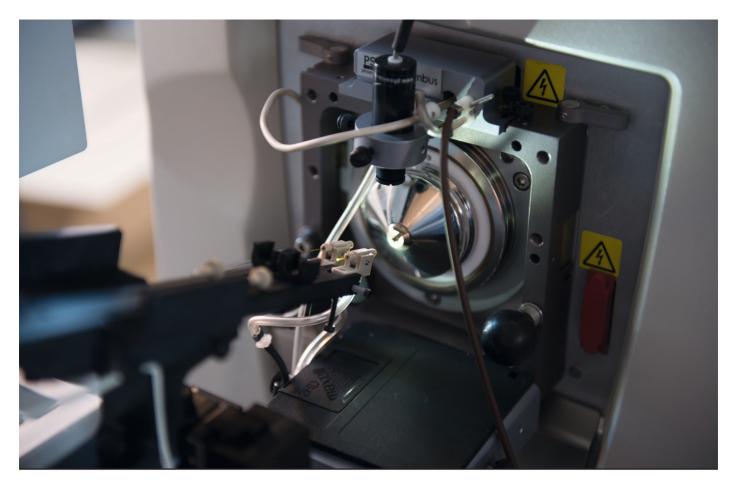
The taste of beer is determined by components such as aromatics that are formed by the yeast cells during fermentation. Collective research conducted under the leadership of Kevin Verstrepen, Emre Yaksi and Bassem Hassan, in cooperation with Joaquin Christiaens and Luis Franco, has shown that the beer yeasts actually produce aromatics to attract fruit flies. They then use the flies as a kind of taxi to take them to other habitats and food sources. If the aroma-synthesis is brought to a standstill (by switching off the ATF1 gene), the yeast cells lose their appeal to flies. Scientists suspect that the aromatics in the yeast cells have evolved to attract flies as effectively as possible.

Christiaens et al., Cell Reports 2014

Core and service facilities CORNECTOR CORNECTO

Science and technology are inextricably intertwined with one another. The use of new technologies often leads to breakthroughs in scientific research. With our core and service facilities and the 'Technology Watch' program, we ensure that our scientists constantly have a wide range of state-of-the-art technologies at their disposal. Researchers can outsource part of their research project, for which they require a specific technology or expertise, to such a specialized facility. Examples include research into small transgenic laboratory animals, determining the crystal structure of protein, specialized molecular and cell-biological techniques, and advanced microscopy.

Over the past few decades, two important biomedical revolutions, the emergence of molecular biology and the study of whole genomes, have enabled us to gain understanding of many biological and pathological processes. And now we are taking it one step further: by combining traditionally separate domains, such as life sciences, nanotechnologies and IT, we can study life on a nanoscopic scale. In the domain of synthetic biology, we successfully produced artificial elements to create living organisms.



The importance of a 'multi-omics' approach

The new technology 'wave' has enabled the modern life scientist to create biological building blocks and networks based on his own research domain. These then, in turn, form the basis for charting interaction on the level of the genome, transcriptome, proteome and even metabolome. For these reasons, we genuinely believe in an integrated approach to the various 'omics' domains. This approach opens up perspectives in order to gain more focused insights into the molecular blueprint of many development and disease processes. This, however, requires a techno-scientific expertise that is impossible to create within one research group.

We have recognized this trend and, in 2014, made substantial investments in embedding high-tech platforms in our institutional core and service facilities. In consultation with our Technology Watch team and some of the departments, we have implemented several leading edge technology platforms.

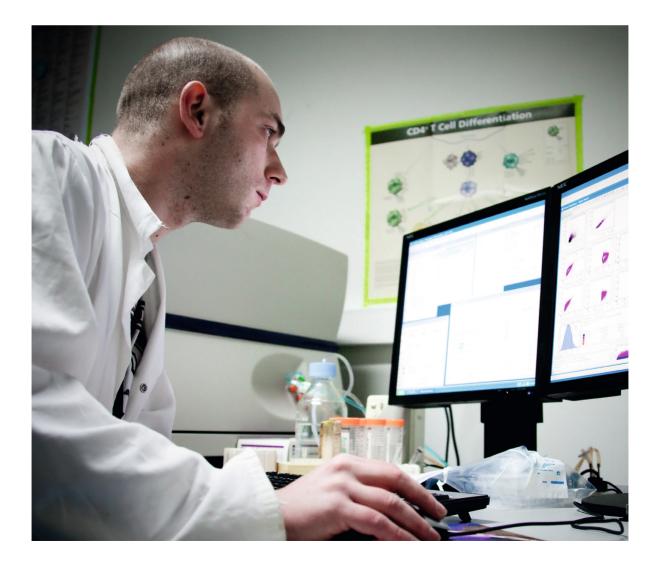
Rewarded with stars

An international advisory council awarded our core facilities with a 'three star' rating in 2014. Our equipment combined with the expertise and the professionalism of our employees genuinely set the standard in Europe.

Our core and service facilities provide their high-tech equipment and expertise to our own researchers but also scientists from other organizations and even industrial customers can benefit from these services.

Science as part of the Value Chain

Although research forms the basis of our scientific knowledge, transferring the research results to the marketplace is of equal importance to an organization such as ours. Our technology transfer team ensures that the results of our research are converted into tangible products and services that find their way to both the patient and consumer. Creating such economic added value can take various forms, e.g. setting up start-ups but also engaging in strategic alliances with (biotech) companies.



Partners for the future

In 2014, we entered into a number of important partnerships in the field of microbial fermentation, plant biotechnology and research reagents developed by VIB.

The importance of patents

Applications for patents are not only a parameter for innovation, they are also vital for safeguarding the results of our research for the future. In 2014 the technology transfer team evaluated 71 projects by means of a so-called 'record of invention' in order to establish whether they were eligible for patent protection. On the basis of this evaluation, 28 new priority applications were submitted. Our patent portfolio comprises 224 active patent families. Since our foundation, we have obtained 246 patents in our name; these belong to 73 active patent families.

"Realizing social and economic added value through innovative research is equally important."

Staf Van Reet, Voorzitter van de Raad van Bestuur Jo Bury en Johan Cardoen, Algemeen Directeurs

Catalyst for the industry

During the past year, intensive collaboration has taken place with the industry in general. The industrial sectors with which we work are very diverse both in terms of activities and geographical origin. A total of 130 collaborative agreements were signed, 63% of which were based on a research collaboration, 25% of which were short research assignments and 12% of which were licensing contracts without a research component.

Over the years, an important Life Sciences biotech cluster has been created in Flanders in which we function as a catalyst for the industry. The proximity of centers of excellence such as VIB is a huge advantage for many companies. This cluster is also very appealing to foreign companies and we have a proactive role in attracting businesses to Flanders. Together with the 'Flanders Welcome Team', which includes representatives of FIT, IWT, Flandersbio and ad hoc partners alongside VIB, we introduce interested companies to the Flemish network of investors and business partners. In 2014, we helped two foreign companies, Toku-E and Kalgene, to start activities in Flanders.

Spin-offs and modern company infrastructure

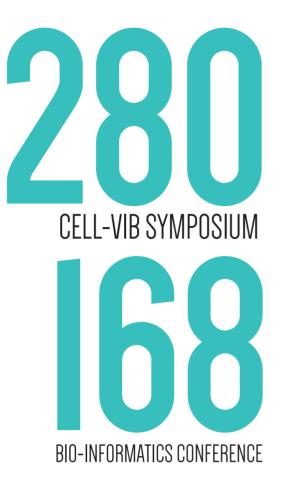
So far, we have been involved in the creation of twelve new companies, eight of which were set up with venture capital. In total, these companies employ around 610 people and have collectively acquired 570 million euros in capital investments.

Biotech companies need appropriate infrastructure in order to carry out their work. In Ghent, we have two bio-incubators which accommodate 12 businesses. Together with university and financial partners, the Institute has also invested in three biotech incubators in Leuven and two bio-accelerators in Ghent. All in all, this represents 43,500 m2 of ultra-modern laboratories and office space, specially designed for biotech activities.

Transparent Communication

We share our knowledge with the academic world, young people, policy-makers and the general public by issuing information customized to the target group, through various media. We provide information on our website (vib.be), we publish brochures and fact files on biotech themes and we are also on Facebook and Twitter. We feel it is important that anyone who has questions about biotechnology and its applications can share these with us.





Academics and business world

For colleagues from other organizations and biotech companies across the globe, we organize conferences with leading speakers from both home and abroad. In 2014, we held two conferences. The 'Bio-Informatics Conference' took place in Leuven and welcomed 168 participants. The 'Cell-VIB Symposium – The multifaceted roles of type 2 immunity' was held in Bruges and attracted 280 participants.

Communication for the general public

The option to study (life) sciences is not an obvious choice for young people when considering further education. That is why we have developed a number of educational initiatives to demonstrate how captivating the world of biotechnology can be. With 'Science out and about' (Wetenschap op Stap), we target the final two years of primary school. The classes are visited by a genuine scientist who tells them all about his world of work. The 'Science4kids' project runs in collaboration with the Nature & Science (Natuur & Wetenschappen) association and is aimed at youngsters from the sixth year of primary education (aged 11-12). This project is principally constructed around subjects relating to blood. Secondary schools can also come to us to borrow electrophoresis and ELISA-kits.

We also organize several events during which the public at large can discover all aspects of biotechnology. A good example of this is our Biotech Day. In 2014, the event focused on inflammatory diseases and immunology. We welcomed around 4,800 enthusiastic visitors to the Technologiepark in Ghent.

We also want to offer a listening ear to anyone who has questions about biotechnology or who has to deal with a specific condition. People can reach us on our website, by email or phone. Every question will receive a personal and scientifically backed answer. The success of an institute such as VIB is largely determined by our people. We therefore ensure that all our employees are coached appropriately. We advise our PhD students and Postdocs on how to effectively progress their careers; we make sure they can engage in all sorts of practical training that will help them achieve their goals. Employees in supportive roles can also access a series of courses in their specific area.

Investing in DEODLE

Our training

With Training at VIB', we organized 48 general courses in 2014. This ranged from courses in Excel, to presentation techniques and writing a convincing grant application. We also offered 33 professional courses on various high-tech and scientific topics. Over the past year, we have had 1,956 registrations for our training courses.

Our people make the difference

Our scientists and technicians largely set the standard in terms of VIB research. There are also many people who contribute one way or the other to the success of our organization. Colleagues in many support roles ensure that our researchers are able to work in the best possible conditions. We would therefore like to let a few colleagues speak for themselves:



Nico Smet Lab-technician/Glasshouse manager - VIB Department of Plant Systems Biology, UGent

I am proud to be part of a leading institute such as VIB. I see to it that our scientists are able to work in the very best conditions by ensuring that plants are watered and fed appropriately, by monitoring growing conditions and preventing pests from taking hold. My team and I are thus able to make a valuable contribution to the excellent research that is conducted within the institute.



Liesbeth Aerts Ph.D. Student - VIB Center for the Biology of Disease, KU Leuven

My 'backpack' is full of all sorts of things I have learned at VIB during my doctorate, not only at the bench but also during seminars and extracurricular activities. VIB sees to it that its doctorate students are well supported and get appropriate development opportunities. The international character of VIB also represented added value for me.



Sofie Meulenbergs HR Officer - VIB Department of Molecular Genetics, University of Antwerp

For me, working for VIB means working with driven, enthusiastic people who give their very best each and every day. The diversity in terms of people and tasks means there's never a dull moment. As HR Officer, I feel it is important to create a sense of trust between all employees and managers. This is the best way to ensure that our personnel policy is consistent, transparent and stimulating for personnel in the long term.



Jo Van Ginderachter Group leader - VIB Laboratory Myeloid Cell Immunology, VUB

As a VIB group leader, I want to push boundaries and nurture young talent as effectively as possible. The stimulating environment of VIB coupled with a critical mass of scientific talent, access to top quality core facilities, great basic financing and excellent supervision in the quest for valorization is an excellent catalyst in this context.



Karolien De Bosscher Staff researcher - VIB Department of Medical Protein Research, UGent

VIB is more than a quality label; it is a well-oiled machine, a scientific family where all research questions can be answered in a well-founded manner. Initiatives such as Tech Watch, that makes leading technologies available to us, are fantastic. As a woman, I would like to demonstrate to young, driven researchers that a 'scientific calling' and a happy family can be successfully combined. My key-words in this context would be motivation, creativity and flexibility.



Eik Hoffmann Post doctoral researcher - VIB Inflammation Research Center, UGent

Working for VIB is a great opportunity. First of all there is the excellent research environment within my group, department and many associations. Furthermore, as an omics@vib postdoc, I have access to good infrastructure, state-of-the-art core facilities and the extensive training offer of VIB. The freedom that I get from my Group Leader Rudi Beyaert is the icing on the cake. All together this is the ideal mix to pursue my scientific ambitions.



Griet Van Zeebroeck Post doctoral researcher - VIB Department of Molecular Microbiology, KU Leuven

Working at VIB means I form part of an institution that unites the very best research in Flanders and gives us a place within international forums. This offers opportunities that exceed those offered by individual laboratories. As a postdoc, I am able to contribute to basic research that could lead to new applications. I also believe it is important to let the next generation try out the research field, via VIB projects such as 'Science out and about'.



Floor Stam Business Development Manager, VIB HQ

Academia and business are worlds apart, each even with their own language. But even if success and career opportunities are determined by completely different factors, there might be some common interests. If I succeed in bringing both worlds together for specific projects, I believe this could lead to some very nice results. This would also mean that high quality basic research becomes visible and tangible for all of us and that will in turn benefit our scientists.

In the context of good governance, VIB has set up a 'Good Governance Charter'. The full text of the charter is public and can be consulted on our website (vib.be).

Our principles of good governance are regularly tested and adjusted. This means we are able to capitalize on local and international developments in this context and meet the needs of all our stakeholders.

Balance sheet 2014

Balance on December 31, 2014

(in '000 EUR)

Assets	31.12.14	31.12.13
Intangible fixed assets	1.160	1.229
Tangible fixed assets	31.550	33.060
Financial fixed assets	8.346	11.009
Contracts in progress	7.885	10.950
Amounts receivable within one year	12.456	13.154
Investments	68.918	72.287
Cash at bank and in hand	11.605	4.468
Deferred charges	12.381	10.070
Total	154.300	156.227

Liabilities

Allocated funds	60.587	59.582
Investment grants	27.757	28.688
Amounts payable after one year	7.334	7.901
Amounts payable within one year	46.782	47.224
Accrued charges and deferred income	11.840	12.832
Total	154.300	156.227

Profit and loss statement 2014

(in '000 EUR)

Operating income	83.969	78.916
Turnover (from contract research)	24.358	19.597
Contracts in progress (+/-)	-3.065	844
Grants and subsidies	60.910	56.609
Other income	1.766	1.866
Operating expenses	-80.341	-77.613
Raw materials and consumables	-7.639	-6.791
Services and other goods	-20.137	-19.879
Remuneration, social security costs and pensions	-44.270	-42.781
Depreciation	-7.575	-7.356
Other operating expenditures	-720	-806
Financial income	1.561	1.564
Financial charges	-859	-1.072
Extraordinary income	5	1.469
Extraordinary expenditure	-3.330	-329
Profit/loss for the financial year	1.005	2.935



Basic research in life sciences is VIB's raison d'être. On the one hand pushing the boundaries of what we know about molecular mechanisms – how they rule living organisms such as human beings, animals, plants and microorganisms – and on the other hand, creating tangible results for the benefit of society.

Based on close partnership with four Flemish universities – UGent, KU Leuven, University of Antwerp and Vrije Universiteit Brussel – and due to a solid funding program, VIB unites the expertise of 74 research groups in a single institute.

VIB's technology transfer activities translate research results into new economic ventures which in time lead to new products, drugs, etc. that can be used in medicine, agriculture and other applications.

VIB also actively engages in the public debate on biotechnology by developing and disseminating a wide range of sciencebased information about all aspects of biotechnology.

VIB

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