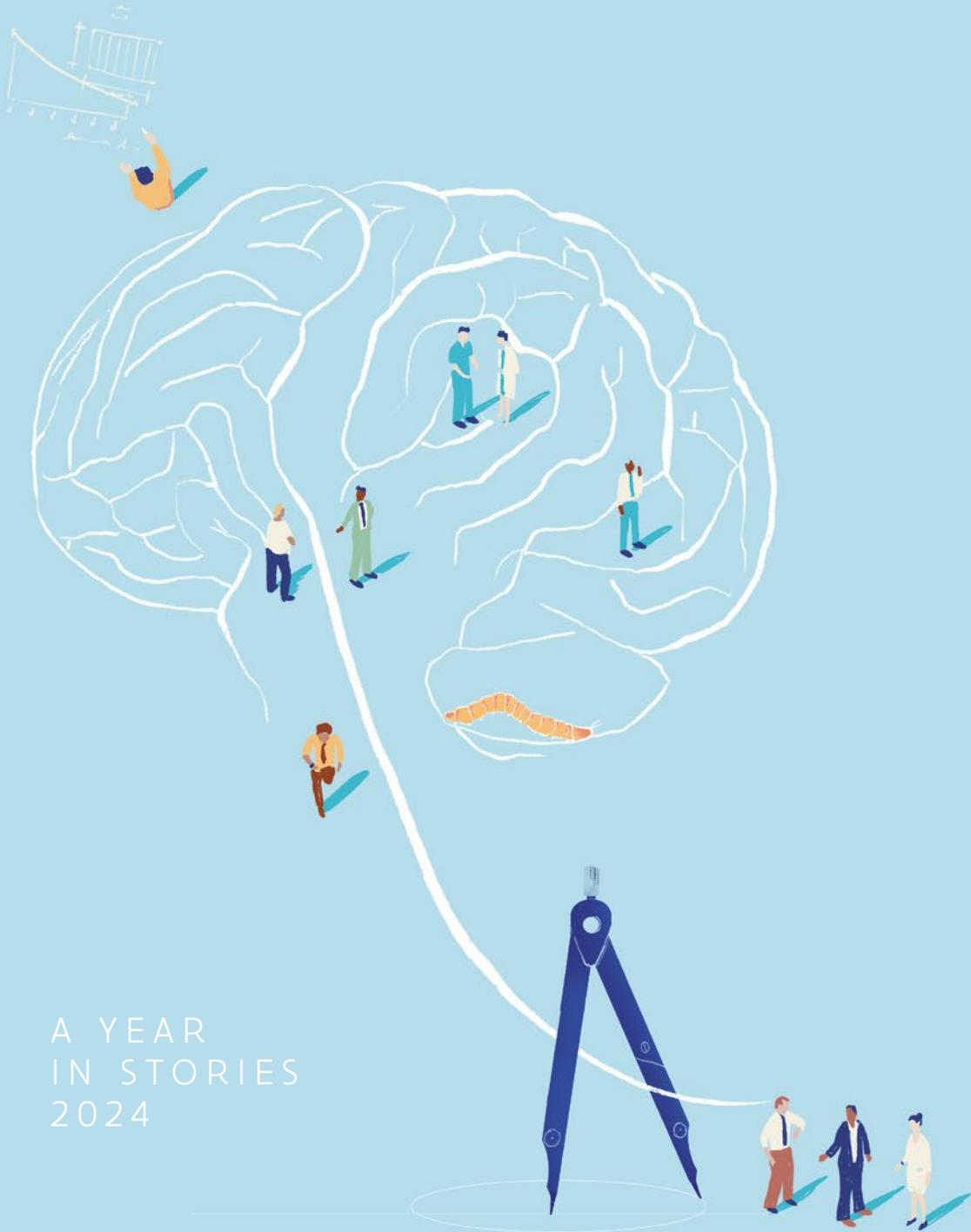


fwo



A YEAR  
IN STORIES  
2024

# In this Yearbook

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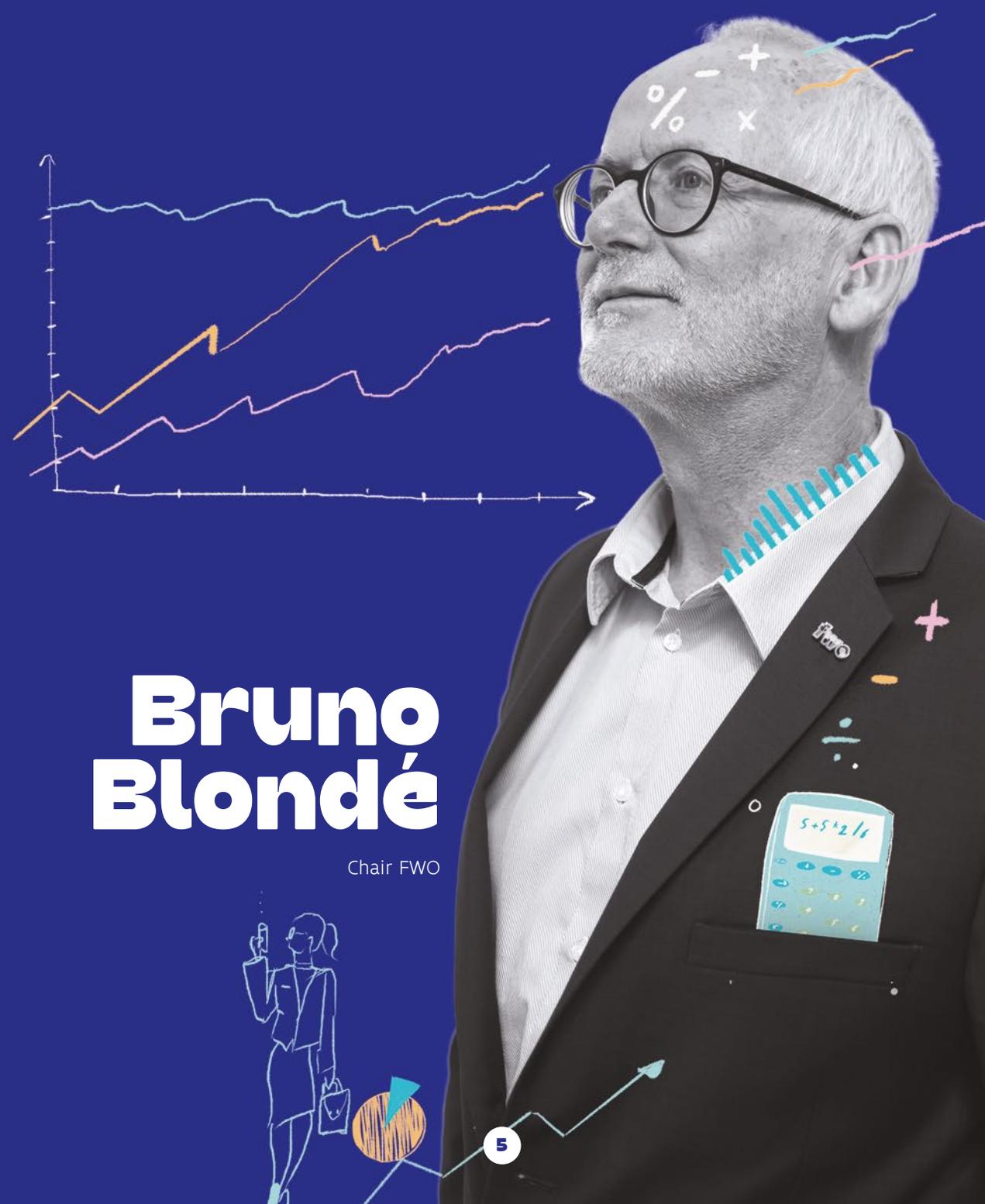
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# Hans Willems

Secretary-general FWO



# Bruno Blondé

Chair FWO

# How science underpins policy

KNOWLEDGE AS THE DRIVER

Science-based policy is a prerequisite for a well-functioning economy and democracy. That is why FWO focuses on scientific research that has an impact. Secretary-General Hans Willems and Chair Bruno Blondé explain their vision. “FWO wants to continue to guarantee reliable results, even in a changing world.”

How do we tackle global challenges such as climate change, pandemics and economic inequality? Where do our resources have the greatest impact? Are we taking sufficient account of the long-term consequences of our policies? These are just some of the questions policymakers face every day. To FWO, the answer is obvious: excellent science is the starting point.

**Science has been called into question in several countries over the past year, also by policymakers. Is this the case in Flanders?**

**Hans:** “Here, both citizens and politicians continue to rate science highly – thankfully. Scientists are the pillars of Flemish policy: while politicians sometimes have to act quickly, and come into contact with different fields on a daily basis, scientists have time to explore topics in depth. This facilitates substantiated and informed decisions.”

**Bruno:** “We strive for science-based policy or science-informed policy: scientists research, gather knowledge and deliver results on which policymakers can build. We have to be honest: alternative facts and pseudoscience are also emerging

in Flanders. Detailed research is the only way you can counter that.”

**Hans:** “FWO wants to carry on providing reliable results. We want to continue to guarantee reliability, even in a changing world. That’s why we also want to go on attracting first-class research – and first-class researchers – to Flanders and support them.”

“At the same time, we want to continue to actively build bridges towards policy. We see that politicians know about us, where to find us. And our scientists are also aware of their role.”

**What steps does FWO take to strengthen the link between research and policy?**

**Bruno:** “In 2024, we launched our first PhD fellowship for strategic basic research with a societal finality. We also want to expand our project applications, integrating the added value into our research right from the start at the conceptual phase. In recent years, project applications have included a second evaluation axis in which we consider the full impact

**“Our researchers have never been placed in an ivory tower. They invariably propose topics that will make a difference to the society of tomorrow”**

of research: educational activities, spin-offs, scientific communication. All these elements are at least as important as the traditional parameters – publications and funding.”

“For the same reason, we participate in the European Commission’s mission-driven research, and we are establishing links to research-driven valorisation in European partnerships.”

**Hans:** “Our researchers have never been placed in an ivory tower. They invariably propose topics that will make a difference to the society of tomorrow.”

“This is also due to the freedom provided by our system. Only a limited number of calls are tied to a



particular topic. Wherever possible, we adopt a bottom-up approach: the researcher takes the initiative. Our researchers are best placed to assess where there are gaps and where their research can add value.”

“And it pays off: when we receive questions from politicians or journalists about funding for, say, research into artificial intelligence or renewable energy, time and again it is demonstrated that we already provide substantial support in these areas. Yet, no one has ever had to say: ‘And this year we are going to spend five million euros on AI.’”

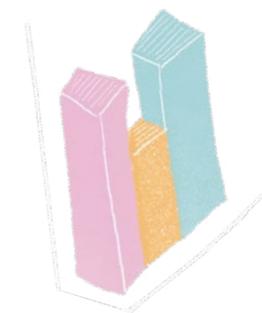
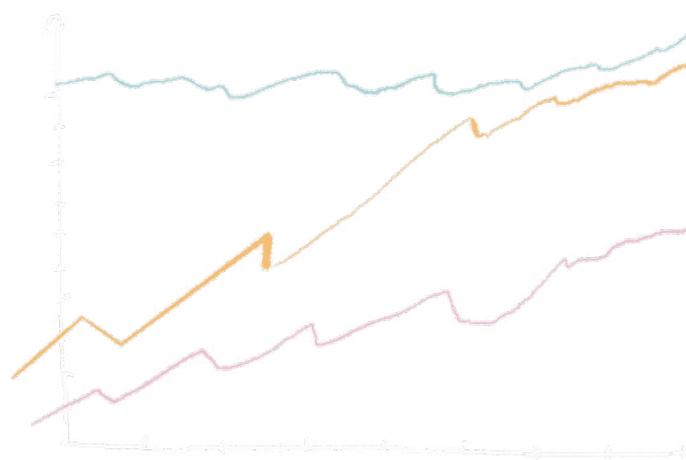
**Bruno:** “Grass doesn’t grow faster if you pull on it, you need to water it and be patient. Fundamental research needs trust and time. Wanting to provide too much direction may yield short-term gains, but in the long run you pay a high price for it.”

“We achieved our leading position in Europe by consistently following that approach for years. We don’t strive for excellence by pushing people in one direction. We build bridges to facilitate impact and valorisation: for example, our PhD fellows can participate in internships or exchanges within their industry field.”

#### What support does Flanders offer the FWO in this regard?

**Bruno:** “In recent years, there have been more investments in fundamental and strategic basic research, but percentage-wise less than in the other pillars of the Flemish research, development and innovation landscape. Unfortunately, we currently have to

## “Alternative facts and pseudoscience are also emerging in Flanders. Detailed research is the only way you can counter that”



turn down a lot of promising projects because FWO funding is lagging behind. If Flanders wants to maintain its leading position in research and development in Europe, we cannot do without additional investments in basic research. We are glad that the current minister responsible, Matthias Diependaele, is thinking about the coherence and dynamics in the R&D&I landscape and the priorities we need to set.”

**Hans:** “And of course we focus on more than just the Flemish Government. FWO keeps in touch with universities and other stakeholders. This year, at the initiative of the Minister-President, representatives from industry, academia, smaller research institutions and employer organisations such as Voka and UNIZO came together to set clear priorities for the Flemish research and innovation landscape.”

**Bruno:** “This collaboration between institutions and organisations is necessary to develop a systemic vision. How can we ensure that scientific findings are picked up and translated as quickly as possible? And how do we avoid bottlenecks in the process? FWO can’t formulate an answer to these questions on its own.”

#### Lastly, what message do you have for researchers and policymakers?

**Bruno:** “Not only do we need basic research to remain a prosperous region, but also a breeding ground for a well-oiled society. Therefore, I have one request to policymakers and society – a plea, if you like: continue to invest broadly in these scientific foundations.”

**Hans:** “We find ourselves in a privileged position in Flanders: there is mutual respect between scientists and policymakers. It’s rather exceptional, and something to which we must remain committed. Therefore, my message to everyone involved is: keep engaging in dialogue, even when the need is not acute.”



# Charlotte Van Driessche

Dr. Terrestrial Ecology Unit  
INBO & GHENT UNIVERSITY

## FISHING

How many fish are there in Flemish waterways, and what does that say about the ecological quality of our water? Charlotte Van Driessche goes in search of answers for the Research Institute for Nature and Forest (INBO) and Ghent University.

FISHING FOR INFORMATION

# eDNA reveals the quality of water



Of the one hundred and ninety-five Flemish watercourses, only one has a good ecological status. The measures in the Flemish Decree on Integrated Water Policy were already making progress, but monitoring them is a slow and difficult process. New biomonitoring methods show where water quality is improving. Charlotte Van Driessche researches one such method: eDNA metabarcoding.

## What determines the ecological quality of a watercourse, and how can you measure it with eDNA research?

“One of the most important indicators of water quality is the life it contains. Which plants are growing in it? Which fish are swimming in it? Which species are present that do not belong there at all? Today we identify fish mainly by catching them: we put on wellington boots, go to the watercourse and cast our net. The specimens we catch using this method are measured, weighed and released back into the wild. But it is

time-consuming and disrupts the creatures’ habitat. Which brings me to the basic question of my research: what if we could detect fish without disturbing them? What if their genetic fingerprint in the water could tell us everything we need to know?”

“eDNA or environmental DNA is the DNA that organisms leave behind in the environment. Just as humans lose hair or flakes of skin, fish leave traces in the water, such as scales, slime, faeces or reproductive cells. To collect that eDNA, we take water samples from the riverbank. We filter the water on site and freeze it as soon as possible. In the lab, we decide which analysis – or analyses – to perform: we need very little eDNA to obtain a lot of information.”

## You perform two types of analyses: what determines which one you choose?

“An initial analysis involves barcoding using PCR techniques, which stands for polymerase chain reaction. From tiny amounts of DNA, we multiply one piece until we have more than a billion exact

copies to analyse. After that, we look for one specific species of fish. Is its DNA present, and if so: in what quantity?”

“The second analysis, metabarcoding, goes one step further: it immediately provides an overview of all the species present. This efficiently provides us with a complete picture of the fish communities in a watercourse – from common to rarer species that we might miss using the fishing method. Unlike barcoding, metabarcoding shows the relative quantities of each species in the community. If we want to know the number of specimens

per species, we revert to barcoding to detect those specific pieces of eDNA.”

“In other words, in practice the two techniques often complement each other.”

## How does eDNA provide an estimate of the number of fish in a watercourse?

“It is difficult to determine exactly how many fish have shed a certain amount of eDNA. Take the example of the eel: as tiny glass eels, they barely measure a few centimetres, while adult eels can grow up to a metre long. If we



**“What if we could detect fish without disturbing them? That is the basic question of my research”**

## “Just as humans lose hair, fish leave traces in the water, such as scales, slime, faeces or reproductive cells: eDNA”

recover a lot of eDNA, the question is whether it originates from six glass eels or from one fat adult eel?”

“That’s why we also look at biomass: approximately how many kilograms of fish are there? We rely on years of research that has determined how much eDNA each species of fish sheds on average per gram or kilogram of biomass. The eel, for example, produces a lot of slime, so there is relatively more eDNA in the water than for other fish.”

### Are there any other factors that affect the analysis?

“Absolutely. Depending on the source – scales, slime, etc. – eDNA has a different quality and may or may not be present for a long time. The behaviour of the species also determines how easily we can detect them. The stone loach and the gudgeon, for example, stay close to the bottom and crawl between rocks: their eDNA also lingers there. The roach swims in the water column, so its eDNA is more subject to the current and flow of the watercourse.”

“Therefore, external factors play a role. How much UV radiation affects the eDNA? How fast is the water flow? And how far from the fish was the sample taken? The closer it was taken, the more eDNA we find; the further the current takes it, the weaker the signal becomes. Large numbers of fish closer to the site can drown out the signal of fish further away. Therefore, we always record how fast the water flows at the site where a sample is taken? How much water is there? How many plants, rocks and other objects are there?”

“Calculating the influence of all these variables manually is unfeasible. We know that the hydrological context and our knowledge of each species are indispensable. For other variables, we always test whether they increase statistical certainty – if not, we don’t add them to our model. This practical approach is crucial for this type of research.”

### The FWO supports you with a strategic research grant. What does that mean for you?

“I get to study issues from the field – in this case from INBO, which supports monitoring for the European Water Framework Directive. The Directive requires all member states to make their waterbodies ecologically sound. In Flanders, this is implemented through the Flemish Decree on Integrated Water Policy. Within that context, INBO monitors, among other things, the impact of water quality measures and tracks exotics – species that do not naturally belong here – in order to better protect our native fish species.”

“This is currently achieved through an extensive network based on catching fish. As I mentioned, this takes a lot of time – and therefore money. Moreover, you only get information about the species you actually catch. With eDNA techniques, we can make that network more efficient and scale it up: sampling is faster, requires fewer people and allows us to sample more locations, in time and space, with the same resources. This increases the ‘resolution’ of our observations, allows us to identify changes in the landscape faster and intervene sooner.”

“Nevertheless, we should mention one caveat: eDNA techniques are supplementary, not a replacement. We look at DNA, not the actual fish. As a result, we can tell whether a species is present, but not whether reproduction is taking place, for example – crucial information that you can only obtain by catching the fish.”

“For now, we mainly see that both methods confirm one another. Together, they provide a more complete picture of which species are present at a particular site, which species need extra attention and how the condition of the ecosystem is evolving. This allows us to monitor water quality in an even more targeted manner.”



# Mik Van Der Borgh

Associate professor Faculty of Engineering Technology KU LEUVEN

AGRICULTURE

Can insects save the world, or at least agriculture? And how can we deploy them on a large scale without compromising their welfare? These are the questions on which Mik Van Der Borgh (KU Leuven) is focusing.

## FUTURE-PROOF AGRICULTURE

# Insects point the way to a biocircular economy



10,000,000,000,000,000,000. That is how many insects live on our planet, according to the latest estimates. They are rich in nutrients, take up little space and different varieties can be easily bred. They may soon be helping us produce sufficient, healthy food for a growing population, with limited impact on biodiversity and the climate.

## Can insects help future-proof agriculture?

“Definitely. The insect value chain could become an important pillar of the biocircular economy in the European Union. Today, we know of about a million insect species, of which only a fraction have been studied in detail. Even within that limited group, there is great variation

in what they eat, what substances they contain and how we can use them.”

“For example, ichneumon wasps help control pests. Mealworms, crickets and some two thousand other species can serve as food for humans – in some cultures this has been common for centuries. Other species are suitable as animal feed, as a more sustainable alternative to soya, for example.”

“But it’s not just about the actual insects: we can also extract useful substances from them. Insect fats and proteins can be added to food or animal feed. Other components are processed into bio-based chemicals. A good example is chitin, a substance that gives the insect exoskeleton its

strength. We can convert chitin into chitosan, a substance with antibacterial properties, for example, to produce bandages and other wound dressings.”

“Even insect manure – frass – is valuable. Due to the presence of chitosan, it not only promotes the growth of plants but also their resistance. This is how we close the circle: agricultural residual flows serve as food for insects. The insects are then processed into useful products, and the residual waste benefits agriculture.”

## Not black but six-legged gold, in other words. Which insects do you focus on?

“In my current research, I study the larvae of the black soldier fly, originally



a species from the tropical and subtropical zones of North and South America. It builds on the work of Jeff Tomberlin, linked to the Department of Entomology at Texas A&M Innovation. Thanks to Tomberlin’s research, we know that the larvae of the black soldier fly represent a promising avenue for the biocircular economy. The larvae eat virtually anything, from rotting plants to dung. And after 18 days, they are already fully grown, allowing us to ‘harvest’ them quickly.”

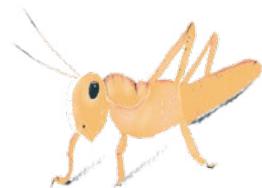
“They are also relatively easy to breed in large containers, which means everything can be automated and manual labour – a significant cost – can be reduced. That’s important because a solution that is not economically viable is not really a solution.”

## Breeding insects in large quantities also raises questions, for instance about their welfare.

“They are legitimate questions but are also difficult to answer. The welfare

## “The insect value chain could become an important pillar of the biocircular economy in the European Union”

## “The welfare and safety of insects are as important as those of chickens or cows”



of insects is as important as that of cows or chickens, but what exactly does animal welfare mean for insects? There is still a lot of uncertainty.”

“For farm animals, we apply five freedoms: freedom from hunger and thirst; from discomfort; from pain, injury and disease; from fear and stress; and the freedom to exhibit normal behaviour. But how do you recognise stress or anxiety in insects, for example? And how do you measure it?”

“I try to answer those questions along with colleagues from the research groups Insect Production & Processing (KU Leuven), Livestock Technology (KU Leuven) and the Toxicological Centre (University of Antwerp). We monitor insect behaviour and metabolism, look for stress markers and link them to their behaviour. For example, many animals grow more slowly under stress; we suspect the same is true for insects, but it may soon turn out that stress manifests itself completely differently in them.”

### You also study the safety of insects, especially for their use in food.

“Insects must be a safe ingredient. We are researching three questions. Firstly, are there microorganisms in the larvae of the black soldier fly that can make livestock – and therefore ultimately humans – sick? And if so: how can we eliminate them?”

“Secondly, do the larvae ingest microplastics? We feed them partly with residual flows from the food industry. This may contain plastic particles, especially if products are unpacked automatically. We now know that the larvae cannot absorb particles larger than 100 micrometers – their mouth opening is too small for that. But what about smaller particles and the chemicals they contain, such as plasticisers? Of course, we also want to avoid these ending up in animal feed and humans.”

“Thirdly, what effect do larvae have on the intestinal health of the animals that eat them, such as pigs, chickens and

fish? They contain molecules that can have beneficial effects on gut health. How can we breed and process them in such a way as to maximise that effect? And could we perhaps increase it? That’s what we want to study.”

### Is Flanders ready for fully-fledged ‘insect farming’?

“Demand from the industry is actually already there. This sector faces a lot of challenges today, just think of the nitrogen issue. But insects also emit substances, and like larger animals, this varies from species to species. For example, the larvae of the black soldier fly produce ammonia, while mealworms also produce ammonia, but much less.”

“We need to research that too: what methods make insects a sustainable alternative, in which pollution doesn’t just shift to another species? For example, we are currently testing air scrubbers, which can neutralise ammonia. And we can also take inspiration from our neighbouring countries: in the Netherlands and France, several large companies already specialise in insect farming.”

### The FWO supports you with a grant for strategic basic research. How is the grant spent?

“Our grant falls under a thematic call in the field of agriculture. It supports research to accelerate the transition to sustainable agriculture and flexible food production. A multidisciplinary approach is crucial: it’s the only way we can answer the many questions that arise about the new insect value chain.”

“Thanks to the FWO grant, I can count on the expertise of a large number

of colleagues: within my department and beyond. KU Leuven’s Livestock Technology Group, which I already mentioned, focuses on livestock management, while the NAMES Lab studies the role of gut microbiota in animal gut health. We also collaborate with other Flemish universities and institutions – besides the University of Antwerp, these include Ghent University, Inagro and Thomas More Kempen – as well as with specialists in entomology from the Università degli Studi dell’Insubria in Italy. An effective consortium, with which we have already made considerable progress.”

“But, there’s still a long way to go. Today we focus on the larvae of the black soldier fly, but who knows, in ten years’ time we might be working with completely different species, for even more specific applications. If you look at it from that perspective, we are just at the beginning of an exciting journey of discovery.”



# Bie Plevoets

Prof. Dr. Faculty of  
Architecture and Arts  
UHASSELT

IMMOVABLE HERITAGE

Are ruins an eyesore for urban planning designers?  
Or a source of inspiration for (new) architecture?  
Bie Plevoets, together with Hasselt University's ArcK  
research group, explores the link between heritage  
and repurposing.

# Ruins inspire new architecture

DECAY AS A BUILDING BLOCK



**“When you consider how a school building has changed, you also see how the relationship between teachers and pupils has evolved”**

From Thermae Palace in Ostend to the Boerentoren in Antwerp, immovable heritage also stirred emotions in 2024. Should we restore it to its original state, repurpose it or just leave it untouched? That is the question Bie Plevoets looks at, a question which determines the role of architecture in our society. According to her, decay does not necessarily play a negative role in this process.

**You say that decay can force us to look at architecture differently. What exactly do you mean by that?**

“In many ruins, the line between the interior and exterior is blurred. Indoor spaces are exposed to weather and wind, changing their character. You could consider that an invitation to reshape the building. Reducing the interior core, for example, not only creates an ecological benefit – it

also creates an intermediate space, opening the door to nature.”

“Buildings with a fraught history or iconographic message that we no longer support constitute a separate category. Consider buildings that symbolise our country’s colonial history: do we opt to restore them or – quite deliberately – let those bricks and messages continue to disintegrate?”

“In other words, architecture is more than a collection of walls and roofs.”

**It is also a reflection of society?**

“Absolutely. Take the modernist principle of ‘Form follows function’: a building’s purpose determined how it would look. A classic example are school buildings, with their central corridor, classrooms following a fixed

pattern, the windows positioned so that pupils don’t get distracted. If those buildings were allocated a different function today, because the school has a new philosophy or the building no longer functions as a school, we have to adapt them accordingly.”

“That also happened in the past, when a religious building was given a new purpose as a school: the chapel became a study room, the monastery garden a playground ... And so the ‘religious floor plan’ was still visible in the new design of ‘the school’ – even if it was a new building that never had a religious function.”

“When you consider how a school building has changed over time – depending on techniques, comfort, ideology, you name it – you also see

how the relationship between teachers and pupils has evolved. Buildings reveal, so to speak, how society has changed.”

“Another example is the repurposing of industrial buildings. During deindustrialisation, artists moved into old factory buildings in search of affordable studio and living space. In the popular conceptualisation related to modern art, these places were often used to represent free artistry – one example is Andy Warhol’s Silver Factory in New York, which was known as a place for experimental art and culture. Gradually, these lofts became status symbols and were also occupied by more affluent city dwellers. These days, you even see newly built apartments being designed as ‘lofts’, with exposed concrete or steel structures, large windows and an open floor plan modelled on an artist’s home in industrial buildings.”

#### **Can you allocate a building a new purpose just like that?**

“No, you need government permission. But that simply created opportunities. Empty village schools, for example, are ideal for cohousing, churches can be revived as community centres, museums, funeral homes or libraries. The possibilities are endless if Flanders wants to encourage such repurposing.”

“Fortunately, that’s often the case. Take the conversion of the Predikheren Monastery in Mechelen into a city library. In 2010, instead of embarking on a simpler renovation of the old library, the city council opted to repurpose an empty monument in the city centre. The Flemish Master Builder played a key role in the architectural competition, and

Flemish heritage policy offered enough freedom to give the building a new life. If you zoom in on the structure, you notice a lot of interventions that would not be allowed in other countries – some modes of reasoning were really challenged. Even with that flexibility, the heritage value of the monastery has been well preserved. The result is stunning, illustrating the uniqueness of Flemish policy.”

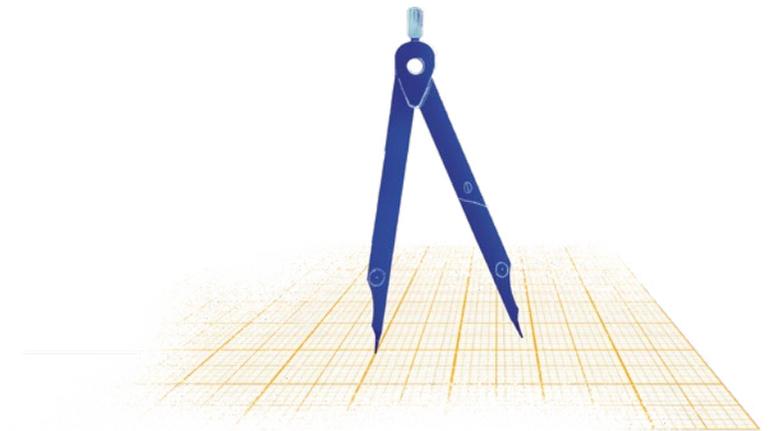
#### **Of course, our heritage does not only consist of historical buildings.**

“True. Many countries opt for showy architecture: they renovate grand buildings and showpieces, while Flanders also focuses on everyday architecture. What do we do, for example, with old office and residential towers, with post-war neighbourhoods? And what about mediocre or downright awful architecture?”

“The discourse has shifted in recent years. For a long time, leading redevelopment projects often involved major interventions, and a striking contrast between old and new. Today, smaller, more subtle alterations, which still have considerable impact, are appreciated more. French architect and urban designer Charlotte Malterre-Barthes asks the question in one of her books: ‘What if we didn’t demolish anything for ten years? How would that change our view of architecture?’”

“This question is also prevalent at the European level. The Citizens’ Initiative HouseEurope! is asking Europe to discourage demolition and think about creatively reusing buildings and building materials. The idea is gaining support from a growing network of

## **“In the past, repurposing in the city involved major interventions, today more subtle alterations apply”**



academics, leading architecture firms and from local policy, and thanks to FWO I can do it in Flanders as well.”

#### **The FWO gave you a grant to set up and coordinate Scientific Research Communities: what exactly does that entail?**

“As a postdoctoral researcher, I already had an FWO fellowship. Initially, I focused on architectural theory, but I also got the chance to engage in a lot of scientific communication, for example, when the Flanders Architecture Institute (VAi) invited me to present the results of my research. I immediately realised that there was a huge amount of interest. Not only from academics and architects, but also people who implement day-to-day policies.”

“I want to build on those contacts. I’m now thinking of Charleroi, where industry is still active and defines the

streetscape: just outside the city, the old Palais des Expositions was given a new lease of life thanks to the Chapex project. These kinds of initiatives make you dream of new possibilities. To achieve them, we need a shared language and innovative methods – so that people from diverse backgrounds and interests can take part in the debate on heritage and repurposing.”

A portrait of Lara Reyniers, a woman with dark hair and hoop earrings, wearing a dark long-sleeved top. The background is a light teal color with a white grid pattern. Various graphic elements are overlaid: a globe with a blue and green color scheme and white arrows indicating rotation; two white construction cranes with orange accents; a green recycling symbol; and a vertical orange ruler-like scale on the left side. A dark blue cable with a circular component is also visible at the top.

# Lara Reyniers

PhD researcher  
Architectural Engineering  
VUB

## LIVING

Removing and reusing paving stones, remelting metal, saving valuable portals from demolition: that was the circular approach to construction in Brussels – in the 19th century! How can we revive that approach? That's the question Lara Reyniers reflects on at the VUB's Architectural Engineering research group.

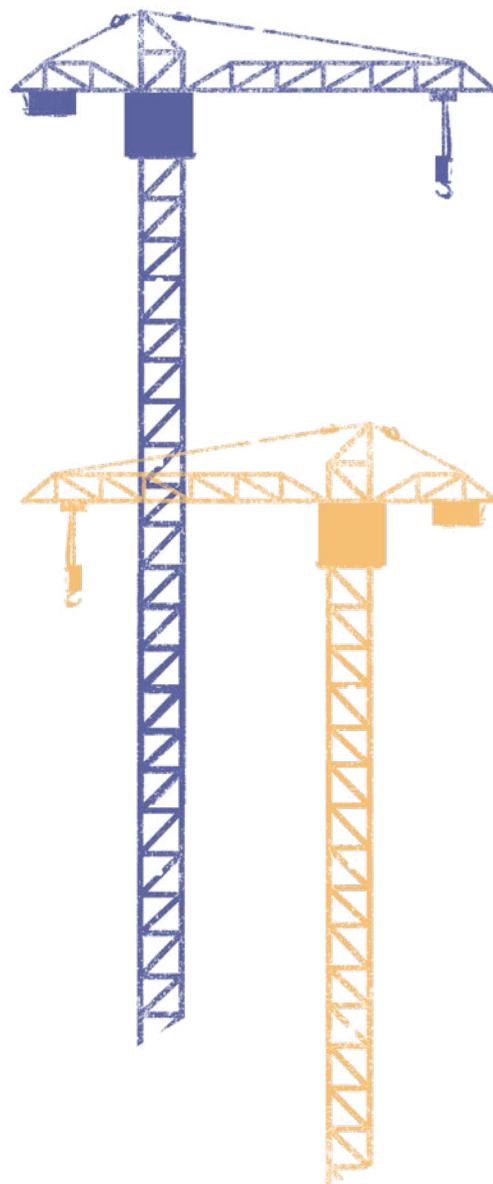
BACK IN FASHION

# Circular construction: the old normal

The construction sector is responsible for over 35 per cent of total waste generation in the European Union. Globally, the sector's entire value chain accounts for as much as 12 to 39 per cent of total greenhouse gas emissions, depending on the source. One of the solutions? Circular construction: use fewer materials and commit to reuse, from design to demolition. Lara's research shows that surprisingly, we can draw many lessons from the past when it comes to reuse.

**Renewable resources and materials in construction: it's not a hype but a much older concept than many people think. How did they go about it in the past?**

"When we consider historical architecture, we often think of permanent structures like cathedrals



**"If you stand at the back of KVS now, you can actually see an example of 19th-century circular construction"**

and palaces. And of course, a few hundred years ago, the focus was much less on what we call ecology and circularity nowadays. But indeed: the reuse of materials is much older – and used to happen on a much larger scale – than we currently think."

"Buildings were almost systematically dismantled at the end of their lifespan. Traditional building techniques allowed for this: from the large composite elements to individual bricks, fixed with mortar that facilitated loosening and cleaning – even then, buildings were seen as a composition of materials that could also be put to different uses."

**In your FWO research, you focus on reuse in the period since 1865: what's the reason for this choice?**

"In the 19th and early 20th centuries,

Brussels was in the midst of transformation: the North-South Connection was being built, the works to span the Senne altered the streetscape. For my research, that period is a goldmine: historical photo collections show that there was a lot of focus on reuse in demolitions back then."

"Rubble, earth and waste were mainly used to fill construction pits. Materials in good condition were given a second life in other buildings or sold, often to finance new construction projects – or at least to offset the cost of demolition."

"A fine example of this is the old warehouse on Arduinkaai, which had to make way for the Royal Flemish Theatre (KVS) in 1884. The city of Brussels was the client, providing us with a wealth of documentation to consult about the procedure. And the economic factor immediately stands out. Roof slates, lead, zinc, oak beams and columns, floors, white and blue stone, window frames, doors, paving stones, you name it: a total of some 600 lots of old materials were sold at five public sales during and after the demolition of the warehouse. About a third of these went to the Department of Public Works, most of the other buyers are unknown."

**So, economic motives played an important role. Were there any others?**

"Yes. From the second half of the 19th century, Brussels city council took steps to preserve the past. Valuable objects – works of art, historical coins, objects of value in terms of natural history – ended up in the city museum. Beautiful materials, components

## “Roof slates, lead, zinc, oak beams and columns, floors, you name it: some 600 lots of old materials were sold after the demolition of the warehouse in the winter of 1884”

If you stand at the back of KVS now, you can actually see an example of 19th-century circular construction. It shows how people wanted to preserve and integrate not only materials but also urban structures at the time. The idea that a building is part of a bigger picture already existed.”

“Even today, façade preservation remains a common practice when old buildings are renovated. When you look in and around De Brouckèreplein, there sometimes seem to be more façades than buildings! Now, in those cases it is not always about circularity but also about the question: which part of a building has heritage value?”

“And in more recent buildings, only the structure is preserved. Consider the Multi Tower, also on De Brouckèreplein, built in the 1960s as the Philips Tower – ‘De Brouckère Tower’ as the locals refer to it. During the renovation, between 2019 and 2022, more than 89 per cent of the concrete was reused. In fact, of all the large-scale office buildings in Brussels, the Multi Tower is said to have the highest percentage of recycled materials, partly due to the collaboration with a circularity partner for urban mining. The hexagonal tiles in the lobby, for example, come from old Generale Bank offices. We also saw this at KVS, by the way: the paving stones were used to repair a pavement at a Brussels school.”

**Your research shows that during the 20th century, we gradually moved away from reuse. What factors played a part in that?**

“To begin with, there was a social evolution: workers’ wages rose and

and even entire buildings moved to a new location, where they were reintegrated into the urban fabric.”

**Now, it is a building’s environment that helps determine its value. How did that insight develop?**

“In the 19th century, people increasingly opted to leave parts of buildings standing, such as façades. KVS is another fine example of this: when it was built, the façade of the old warehouse was reused as the rear wall.

were no longer compensated by material savings. From an economic perspective, this made it less profitable to selectively dismantle and repair materials as it is time-consuming work. After the Second World War, a strong construction and consumption drive took place, supported by an efficiency system in which speed and low costs were decisive. Demolition was faster thanks to new machinery, and waste was transported straight to the landfill – the logical option within the economic model of the time.”

“Yet, the image of a fully disposable culture is insufficiently nuanced. Reuse was still practised, but it became increasingly difficult for builders dedicated to it to survive. Numerous companies and individuals continued to be creative with existing materials. They focused on restoration, adaptation and reuse. Their work often remained under the radar because it did not really fit in the prevailing construction and financing model.”

“You could say that the second half of the 20th century was an exception: a brief period when the linear model became dominant. It proved unsustainable: as landfills filled up, recycling – for example, by processing construction rubble into asphalt granulate – gained ground again. A political-ideological shift occurred at the same time: Today, Brussels explicitly profiles itself as a circular city, and the region’s master builder promotes conservation and reuse.”

“Even now, the ‘old normal’ is far from being new. Reuse is making a comeback, but it requires time, collaboration,

adapted regulations – and a different way of looking at buildings and materials. At the same time, what is often presented today as ‘innovative circular construction’ sometimes risks being disconnected from existing, often informally grown practices of reuse that have existed for decades. Focusing solely on technological solutions, scalability or ‘market-based’ business models can marginalise that long-standing knowledge and the people behind it. The circular discourse is innovative in its words, but blind to the heritage of reuse itself.”



# Annick Willem

Associate professor Faculty of  
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GHENT UNIVERSITY

## SPORT

A bribed referee, suspended players on the pitch, a striker who 'accidentally' shoots wide: isolated incidents or symptoms of a deep-rooted problem? The Prevention Of Fraud in Sports (PrOFS) project brings researchers from different disciplines in the field together to examine sports fraud and provide solutions, with Annick Willem (Ghent University) as its captain.



SCIENCE VS SPORTS FRAUD

# The winning formula of the ProFS project

Measures against sports fraud can be found everywhere. From the International Olympic Committee to the Belgian police, there are checks and penalties at all levels. Or at least that is the intention. Because fraudsters often find a way through the loopholes. Or they do not even realise they are committing fraud. How can we intervene more effectively? Or rather, avoid athletes, trainers and other stakeholders falling into the trap? In 2020, these questions led to the ProFS project being set up at Ghent University and KU Leuven.

## Let's start with an easy one: what forms can fraud take in sport?

"We distinguish between sport-specific and non-sport-specific fraud. Many people associate the first category with match-fixing, for example: athletes,

coaches, officials or others deliberately influencing the outcome of a match. Think of punters betting on the fourth serve of a tennis match and sharing the winnings with the athlete. But 'altering' the year a talented footballer was born so they can play longer in the youth league is also a form of fraud."

"Non-sport-specific fraud refers to general fraud in the context of sport. This often involves the 'creative use of money', from financial fraud to tax evasion."

## Globally, tennis, football and basketball involve the most gambling: are those sports also most susceptible to fraud?

"The bigger the sport, the greater the chance of fraud and criminal interference – and of media coverage when a case comes to light. In recent years, there were indeed major cases of fraud in the sports you listed. In 2018, large-scale



**"Sports fraud is characterised by three common elements: a motivated perpetrator, a suitable target, and the lack of a capable protector"**

match-fixing shocked the tennis world: an Armenian gang had bribed over 180 tennis players in minor competitions, rigging at least 375 matches."

"That same year, Operation Propere Handen, officially Operation Zero, took Belgian football by storm: on 10 October, an investigation into money laundering, bribery and match-fixing led to 44 house searches by 184 officers at top clubs, board members, agents, referees and trainers. And in early 2025, three former players of the Belgian 3x3 basketball team were given community service sentences for qualifying for the 2021 Olympics through a series of fictitious tournaments."

"But no sport is immune. You sometimes hear 'we don't have a problem with fraud' – because a sport,

competition or club has never been discredited. But it is precisely this denial that makes it easier for people with bad intentions, for example, to use athletes for their purposes."

## How does that manifest in other sports, such as recreational clubs or associations?

"Our own research shows that fraud is far from limited to the highest level. About half of sports clubs sometimes pay cash in hand. Over 20 per cent have already issued manipulated invoices. About 15 per cent faced the theft of club resources, and over 25 per cent encountered conflicts of interest. Two per cent indicated that wrong match results are entered in the registration system. And nearly seven per cent of footballers report having been involved in match-fixing. That's a lot – especially



when you consider the large number of games that take place every year.”

“Mind you, it is not our intention to measure how much fraud there is. We want to examine how the problem evolves and what impact preventive measures can have. That’s why we have developed the Fraud Perception Index (FPI): a measurement tool that identifies which forms of fraud occur, who is involved, and how it is perceived within a sport or sports federation.”

#### **What have you already learnt from the FPI?**

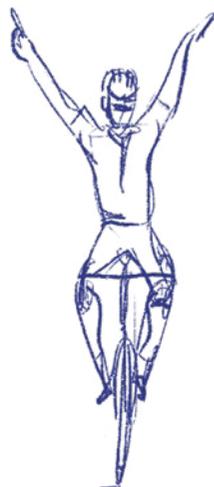
“One striking conclusion is that there is a lack of awareness of how serious fraud is, especially at the recreational level. Someone told us: ‘If fraud benefits the result or the club, it’s not actually that bad.’ But fraud is still fraud, even at the recreational level. You’re not only cheating the opponent, but also the public – and the sport itself.”

#### **How do you translate the insights from the ProFS project into measures that are applicable in different sports and at different levels?**

“For a start, we have brought together excellent researchers and PhD students from different disciplines: law, criminology, economics, psychology, sports management and sports education. By the way, that was only possible because our project received support from FWO.”

“We started from a rather theoretical, exploratory angle, by examining what causes fraud. Three common elements soon emerged: a motivated perpetrator, a suitable target, and the lack of a capable protector.”

**“We don’t have a problem with fraud’, you sometimes hear - because a sport has never been discredited. But it is precisely this denial that makes it easier for people with bad intentions”**



“Since fraud occurs in all sports and at all levels, a broad approach is necessary. If you focus on just one problem, such as intimidation, you’re fighting a losing battle. Prevention should start with young athletes. Sport often has an educational role: teaching children to work together, dealing with losing, you name it. If they start thinking fraud is normal, they will carry that with them all their lives.”

“In addition, sports organisations have a crucial responsibility. They set the financial conditions and rules of conduct for athletes and can discourage or encourage abuse. For example, if you prefer to pay a trainer cash in hand – because an envelope

of money is easier anyway – then you open the door to even more fraud.”

#### **The FPI is not your only tool to make athletes and clubs aware of the dangers of fraud.**

“No. We have two e-learning modules, already used by the Flemish Sports Federation, to help sports clubs understand their vulnerability to match-fixing and money paid under the counter – and how to mitigate the risks. Together with Sportieq, the former Centre for Ethics in Sport, we also developed a workshop for young people in top-class sports schools: we want to teach them to reflect on their own moral behaviour and increase their awareness of the many forms and consequences of fraud in which they could become involved. And we created a flow chart that tournament organisers can use to identify vulnerabilities.”

“Thanks to our close cooperation with sports federations and policymakers, sports fraud is becoming more of an agenda priority. But there’s still a long way to go: legislation could be clearer, and we need more financial transparency – through checks by federations and governments. Therefore, we continue to propose concrete measures, ideas for new research projects, and, of course, continue to cooperate with all stakeholders. It’s the only way we can enjoy fair sports in the future.”





# Mariëk Vanden Abeele

Associate Professor  
Digital Culture  
GHENT UNIVERSITY & imec

## DIGITISATION

Humans desperately need a healthier relationship with digital technology. At work, at school or with the family: Mariëk Vanden Abeele (Ghent University & imec) studies the obstacles that stand in our way.

# Disconnect to connect

DIGITAL AND/OR HEALTH



Quickly checking your social media when you wake up, scrolling through the news during your coffee break, replying to a message from your children's teacher in the afternoon, and checking your work emails while sitting on the sofa in the evening: we are permanently connected wherever we are. Disconnecting is becoming increasingly difficult: the smartphone is by far the device that the Flemish would least be able to do without, and over 40 per cent think they spend too much time on it.

## Why has it become so difficult to abandon our smartphone, tablet and other devices for a week?

"We currently live in a digital society. 'Digitisation' almost automatically equals 'efficiency gains'. To some

extent, our reliance on technology makes sense: users can access services faster, and organisations – from governments to businesses – no longer need to offer the physical equivalent of those services."

"However, this pervasive digitisation is reaching its limits. Organisations need to invest more and more time and resources in it, and as a user you basically have no choice – you have to keep up. As a result, the digital divide is growing: by 2023, 40 per cent of Belgians aged between



16 and 74 were digitally vulnerable because they did not have sufficient and easy access to essential services, hindering their participation in society. Where offline services are still provided, they are often so limited that they are not a fully-fledged alternative."

"Moreover, the digital society is an 'always-on' society. In fact, today we expect everyone to always be available, to be just a phone call or message away. It's the same as traffic jams: we are the ones who create the problem, and yet it seems we are stuck without another option."

## Digital platforms are also designed to keep us 'hooked'.

"That's right. From Facebook to Angry Birds, digital media may be free, but we actually pay with our attention. More attention means more information about our behaviour – information that is worth money to companies. To hold our attention, tech companies have developed an addictive design: they apply insights from behavioural psychology and behavioural economics to direct our behaviour. Rewards in video games motivate us to continue playing, video reels are so inviting that you keep watching, and even the layout of notifications has been extensively tested to make us reach for our devices as often as possible."

**"We expect everyone to always be available. We are the ones who create the problem, and yet it seems we are stuck without another option"**

### Could the government intervene, for instance to impose restrictions on developers?

"Absolutely. Compare it to gambling and unhealthy food: a lot of regulation already exists for both of these. But there will always be tension between companies that make a profit by binding us to 'their' product and governments that want to protect citizens.

"Moreover, the question is whether we want the government to interfere in such issues – and 'curtail' our freedom. Consider the total ban on smartphones in primary and secondary schools from September 2025. None of the educational networks asked for it, and the Scholierenkoepel (student association) was not particularly happy either: its large-scale survey in 2024 showed that 90 per cent of young people think a total ban in secondary education would go too far."

"The same survey did show that 75 per cent of young people are in favour of clearer rules on smartphone use in school. In other words: support for substantiated restrictions is growing. But overall, individuals largely bear the responsibility for 'disconnecting':"

### For many people, 'disconnecting' means radically ignoring all technology for a while. Is that a good idea?

"That approach is based on the addiction metaphor: we use technology too much, we are addicted and need to kick the habit. Then people actually start detoxing: they completely abandon all technology. Some are naturally more prone to addiction – whether it concerns alcohol, drugs or

digital media. It could indeed be a good idea for them to regularly break that cycle. But in many people's daily lives, disconnecting is simply not a realistic option, and even if you do: afterwards, you still have to step back into that digital-first society in which we live."

### What's the alternative, then?

"The addiction metaphor focuses the problem on people who can't resist their screen. In another metaphor, the demon, the problem lies with the design of digital media and a solution is sought on that basis. Apps to limit your screen time are one such solution. They help, of course, especially if you have less self-control. But do they also improve your well-being? That remains to be seen. In my research, I compare screen time apps with software for people with dyslexia: they help you read, but you are not suddenly going to go crazy about it."

"Plus: fixing a technological problem with a technological solution – isn't that a bit absurd? It's like a drug

## "Digital media may be free, but we actually pay with our attention"

dealer opening a rehab clinic: the same technology companies that first fuel your addiction, subsequently offer apps to help you get rid of it. The apps, with their rewards for 'good behaviour', are often just as addictive, and they collect just as much data on when, how long and how faithfully you 'need' their service."

### That leaves the golden mean: moderating our use of technology.

"Indeed. And for that, I use the doughnut metaphor: technology is like food, where both quality and quantity matter. And sometimes it's like a doughnut: delicious, but not to be enjoyed every day. Just as you can eat mindfully – by eating smaller portions and taking smaller bites, chewing slowly, using your senses and pausing occasionally – you can also use digital media mindfully: with your full attention, aware of what you want to do, then putting your device away. Because connectivity in itself is not a bad thing, and I am not arguing against technology here, but today

our connectivity has gone too far. We have to redraw the boundaries we have erased in the past few years."

"Actually, we should view connecting and disconnecting as ebb and flow. They cannot do without each other, and they need each other to have meaning. Everyone has to find out for themselves: what does a healthy balance mean for me?"



# Imane Kostet

Postdoctoral  
Researcher Sociology  
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WELL-BEING & EQUAL OPPORTUNITIES

How do culture and ethnicity influence a diagnosis of autism? Imane Kostet (University of Antwerp) explores this question from a cultural-sociological perspective – offering a new viewpoint of a complex developmental disorder.



AUTISM: SPECTRUM, DISORDER

# A diagnosis through a cultural lens

A highly intelligent middle class white boy struggling with social situations and excelling in music, maths or some other interest is a description many people still associate with autism. The reality is different. Autism occurs in all population groups and in people of all origins, but the developmental disorder is not always recognised as easily.

## What exactly does autism entail?

"There is no easy answer to that question because there are different perspectives on autism. Today, we use the medical term autism spectrum disorder (ASD) to refer to a group of developmental disorders associated with both under-connectivity and over-connectivity between the different parts of the brain. ASD manifests, on the one hand, by 'persistent shortcomings in social communication and social interaction in multiple contexts' and, on the other, by 'limited, repetitive patterns of behaviour, interests or activities'. Crucially, these characteristics



**“Racism within autism research: it’s a strong word, but reading some of the papers, I understand where it comes from”**

are a hindrance in everyday life – hence the term ‘disorder’.”

“My approach is based on the neurodiversity paradigm, which does not consider autism a ‘disorder’. I not only focus on autism characteristics, as the purely medical approach does, but also include the context. For example, when it comes to someone’s ‘shortcomings’ in terms of communication, I look at the impact social norms can have on it.”

“By the way, there is a third element within the autism spectrum: it extends between people with and people without an intellectual disability. And that reveals a striking pattern: children from migrant backgrounds

are more likely to be diagnosed if they also have an intellectual disability.”

**Is it true that research into autism and other developmental disorders was a ‘white’ field for a long time?**

“Yes. Take the ‘Diagnostic and Statistical Manual of Mental Disorders’ (DSM), the standard for psychiatric diagnosis in much of the world. The manual aims to provide neutral, universal classifications of mental disorders, but until the fifth edition, in 2013, the last chapter listed ‘culture-specific disorders’ – i.e.: disorders that would not occur in white culture.”

“That’s not surprising if you know that parents’ groups lobbied for years to influence the DSM categories. Historically, research was mainly conducted among the white middle class: parents who suspected their child had autism, or adults with a diagnosis. Their experiences still determine the official diagnostic criteria today.”

“That phenomenon is consistent with Canadian philosopher Ian Hacking’s concept of looping effects. He believed that scientific classifications influence people’s behaviour, and that behaviour in turn encourages those classifications. Suppose a group of people are labelled. Gradually, many of them also turn out to be very sensitive to sensory input – loud noises, certain textures, etc. Over time, sensory sensitivity becomes a criterion for diagnosis. And that has indeed happened with autism in DSM-5.”

**You look at autism diagnosis from a cultural-sociological perspective. What’s your approach?**

“I start from the hypothesis that

the conceptualisation and general perceptions of autism promote inequalities. For example, the diagnosis has a strong focus on how people with autism interact with others. Social interactions are also influenced by the broader context, but today that context is still often viewed uniformly: as if people coming from country X by definition have had upbringing Y – and therefore exhibit autism traits in way Z.”

“The reality is far more complex. Culture is constantly changing, and we live in a highly diverse society. People from migrant backgrounds grow up with a mix of influences. You cannot simply assign someone with a Turkish background ‘the’ Turkish culture. Yet it still happens, both in autism research and in support, for example when people from migrant backgrounds try and get a diagnosis.”

**Is cultural diversity taken into account in medical diagnoses today?**

“There are already many diagnostic tools that integrate the cultural aspect, but it remains a challenge.



Take a characteristic like ‘avoiding eye contact’: does a child do that because he has autism, or because making eye contact with adults is considered rude in his culture?”

“Even in scientific literature, you can see how difficult it is to include cultural diversity properly. For example, I read a study on the experiences of children of Moroccan parents in Belgium, which referred to research from Saudi Arabia. But why would you simply equate these cultures, which are fundamentally different? You sometimes hear the term ‘racism’ mentioned with regard to autism research. A strong word – but reading some of the papers, I understand where it comes from.”

**“People with migrant backgrounds think: I have difficulty interacting socially, but that’s because I am the only non-white person living in a white environment. But it could just as easily be autism”**

**You opt to let people with autism speak for themselves. In doing so, what strikes you?**

“One of the words I hear most often is ‘masking’. That means people try and hide their differences. They consciously observe their environment and adapt their behaviour accordingly. This also partly explains why, for a long time, autism in women was diagnosed less often: girls were expected to behave ‘nicely’.”

“Even in people from migrant backgrounds, masking behaviour can get in the way of a diagnosis. For example, they think: I have difficulty interacting socially, but that’s because I am the only non-white person living in a white environment. To them it seems like a logical explanation, but it could just as easily be autism.”

**Your research touches on profound issues of identity. How do you approach that?**

“In my PhD research, supported by FWO, I explored how children in highly diverse schools cope with their multiple identities. I learnt to think critically about ethnicity and saw how children sometimes interpret non-ethnic differences as ethnic ones. I am conducting my current research from the same perspective – again with support from FWO, through a junior postdoctoral fellowship.”

“There is a lot of demand for this kind of research, including from autism organisations. They are becoming increasingly aware that certain groups, such as adults from migrant backgrounds, are still underrepresented in diagnostics and support. In 2021,



the European Union developed a strategy to remove barriers for people at the point where neurodiversity, disability and ethnicity converge. I want my research to contribute to an improved knowledge base that can help refine diagnostic tools in the long run. They are indispensable in a society with so much diversity – and with a challenge as diverse as autism.”



## THE PLAGUE OF BULLYING

# Teachers are the key to a safe learning environment

Children can only learn properly if their basic needs are met. For example, if a child is hungry, they will not be able to concentrate. If we want children to feel safe at school, we have to meet two other needs: their need for psychological safety and their need for connectedness. This is because those who are bullied – and research shows that in 4 out of 10 cases this happens in a classroom – find it impossible to keep up.

**Until now, research has mainly focused on bullying in adolescence. You focus on preschool and primary schools: why is that?**

“Well, it is, of course, easier to question adolescents. Bullying is also most common in the last years of primary school and the first years of secondary school. But research into an early age

group allows us to develop insights that enable us to take preventive action early on. That is particularly important when it comes to identity-based bullying – for example, based on a person’s ethnicity, social origin, physical characteristics, disability or gender identity: it is based on stereotypes and prejudices that are established early on in our lives. These stereotypes and prejudices affect children’s social preferences, which in turn influence how they interact with each other – and can promote bullying behaviour.”

**How would you define identity-based bullying?**

“If children are part of a minority or vulnerable group, they can face related negative reactions. But bullying involves more than that, of course. We rely on the definition of Swedish-Norwegian



**“Almost half of the children we surveyed feel that their teacher never or almost never deals effectively with bullying”**



psychologist Dan Olweus, a pioneer in research on bullying. This is based on three characteristics: the behaviour is intended to hurt, it occurs repeatedly and there is an imbalance of power between the perpetrator and the victim. The perpetrator might be older, stronger or more popular, or the bullying involves a group of perpetrators, making it difficult for the victim to defend themselves.”

“In our research, we focus on different forms of bullying: physical bullying, for example, involves hitting, kicking or shoving; verbal bullying involves perpetrators making nasty comments, name-calling or giving the victim an offensive nickname; and relational bullying involves damaging the victim’s relationships, such as by excluding, ignoring or gossiping about them.”

**The UNESCO definition proposed in 2023 emphasises the context in which bullying occurs. What external factors might exacerbate or mitigate the problem?**

“The scientific focus on bullying is relatively recent. The definition is still being debated: not all psychologists agree with the UNESCO version, as it involves the abstraction of the perpetrators’ individual responsibility. But of course, context does play a role.”

“The 2021 Leuven Teachers4Victims study, which focused on primary education and of which I was one



## “Pupils who have a good relationship with their teacher are less at risk of being bullied”

of the promoters, taught us that bullying is more prevalent at the beginning of the school year and decreases as the year progresses. In September, children are still trying to find their place in the group, social relationships are not yet fixed: some children then use bullying as a way to gain power and prestige, or to avoid becoming less popular themselves.”

“It obviously helps if the school has a strong policy against bullying, and class management is important too. In a classroom environment with a clearly defined structure, lots of positive feedback and minimum negative feedback, pupils are less likely to break the rules and will engage in more task-oriented behaviour. Bullying is less likely in this context.”

### Are there other ways teachers can help prevent bullying?

“They play an important role as educators. It is also in the professional profile for teachers in Flemish

education: together with their team, they must create a positive learning environment in the classroom and at school, they must deal appropriately with pupils in socio-emotional problem situations and pupils with behavioural difficulties, and promote pupils’ physical and mental health.”

“We rely on existing theories to determine the best way for them to do that. Attachment theory and social reference theory, for example, show that children who do not have a good bond with their teacher are easier prey for other pupils. We saw this connection confirmed in the Teachers4Victims study and in a subsequent meta-analysis of existing research: a strong teacher-pupil relationship is associated with less victimisation in the future.”

“According to social learning theory, people learn by observing the behaviour of others – and its consequences. Teachers are important role models since they are the responsible adults

in the classroom. Therefore, they must interact with pupils in a positive way and intervene when bullying occurs. Research performed both by us and other groups reveals that students are more likely to bully when teachers do not respond. This means they are more likely to get the impression that they don’t think bullying is a problem.”

“In our research, we let students speak for themselves. Another conclusion from the Teachers4Victims study is that they expect teachers to explicitly correct bullying behaviour – 77 per cent of children believe they can have a major impact on bullying. So expectations are high. However, in practice, few children generally feel that teachers deal effectively with bullying; in fact, almost half feel that they never or almost never do any good.”

“A more positive picture is obtained when assessing the relationship between teacher and pupil: on average, pupils perceive this relationship as positive and close, with few conflicts.”

“Another striking observation is that if pupils are rejected by their peers, they are also at risk of having a less effective relationship with the teacher. This is problematic because these are exactly the pupils who need more support. This can create a vicious circle of poor relationships and feelings of unsafety in the classroom.”

### How do you ensure that your results also have an impact?

“FWO supports our ongoing inter-university strategic basic research project. The aim of these projects is to generate new scientific insights,

translate them into practice and deploy them as a lever. Therefore, we actively seek input from our societal stakeholders, such as educational networks, organisations that work on preventing bullying, interest groups and the Ketnet TV channel. They jointly reflect with us about the design of the survey, what we ask, what sensitivities there are in minority groups and so on. We can also count on them to interpret our findings and translate them into practice and policy.”

“We present our findings to educational professionals involved in practice and policy. We reach teachers, for example, through blogs and the online platform Sidekick Sam Academy. Based on previous research, we developed a brochure to help them build positive relationships in the classroom and intervene effectively when bullying occurs.”

“Since we have such broad support, we can cover several domains at once. And make sure our interventions are realistic. It is precisely in the pupil-teacher relationship that we can really make a difference.”



# Tim Raats

Associate Professor  
Communication Sciences  
VUB

## MEDIA

From YouTube to Streamz: are streaming platforms making public broadcasting obsolete? Or does their model offer new opportunities? Those questions are being addressed by the Studies in Media, Innovation & Technology (SMIT) research group at imec and the VUB. Tim Raats, head of the Media Economics and Policy (MEP) unit, highlights the impact on policy.

GOING AGAINST THE STREAM

# Public broadcasting, but for what audience?



'VRT offers high-quality and distinctive content, is relevant to the lives of all Flemings and aspires to have a social impact. To that end, it focuses on culture, diversity, inclusion, innovation, music, independent news and innovation.' So the public broadcaster's official mandate tells us. With the big streaming services increasingly gaining in influence – and becoming more popular with viewers, this task is getting more challenging.

**Streaming platforms have changed not only our viewing habits, you say, but also society itself: what exactly do you mean by that?**

"Thanks to streaming services, you can access an ever-increasing range of content anytime and anywhere. In the past, you were reliant on programming but now you can organise your own evening of TV content. This has

profoundly changed the viewing audience. There are many more niche viewers, and their expectations are higher. Young viewers, for example, will find what they're looking for in 'Sex Education' on Netflix or 'Euphoria' on HBO – two very different series. The diversity in their offerings is one of the assets of streaming platforms."

"But that overwhelming supply makes it harder to discover other programmes, whether they are shown by a public broadcaster or elsewhere. You may well have an incredibly diverse catalogue – but what's the point if viewers only get to see a fraction of it?"

"And then there is perhaps the biggest problem: there are many potential viewers in Flanders, and viewers also want to see local content. But making your own series can easily cost fifteen times more than buying a foreign production.

Ensuring a constant stream of expensive fiction is simply impossible for a public broadcaster like VRT."

"One of the crucial questions is: in an increasingly complex society, should VRT still try and reach almost everyone all the time? Or should its mission shift to reaching absolutely everyone – but not necessarily all the time?"

**How can public broadcasters respond to these questions?**

"It's not easy. Before the emergence of streaming services, the media ecosystem was pretty clearly delineated: local players mainly competed with each other. The public broadcaster offered programmes that many people liked – from 'Belgium - Brazil' to Sunday night fiction like 'De Ridder' and

comedy programmes such as 'Schalkse Ruiters'. Programmes for which people came together. And it was a booming market, but also a small one."

"This limited market makes it harder to compete against big media players. Look at smart TVs: on the remote you find buttons for YouTube and Netflix, but not for traditional broadcasters. In France, Germany, Ireland and the UK, the government has taken steps to also include public broadcasters on smart devices. When the coalition government took office, Media Minister Cielte Van Achter indicated that she wants to make this a priority here too."

"Structural cooperation between European broadcasters is also proving difficult. The European Broadcasting

**"In the past, you were reliant on programming but now you can organise your own evening of TV content. The diversity in their offerings is one of the assets of streaming platforms"**





increasingly large international groups. Mediahuis and DPG Media operate in Flanders, Belgium, Europe and beyond.”

“That poses a challenge to policymakers: you don’t want one overly large player to dominate the market and create a monopoly. At the same time, these big players also serve as a lever: by operating on an international scale, they can hold their own in a small market like Flanders.”

**On the other hand, Flanders has a diverse media landscape, with a lot of local talent and local production houses.**

“It’s true. But that’s only possible thanks to government support, ranging from subsidies through the Flanders Audiovisual Fund to the Tax Shelter. It has been a conscious policy choice to invest in a thriving media landscape, and that goes far beyond public service broadcasting. But no matter what way you spin it, public broadcasting remains the sector’s main driver.”

“That’s also necessary: production houses depend on broadcasters for commissions. They can spend years working on an idea without any certainty that it will be picked up at some point. That’s why there are so many small production houses in Flanders – they are more flexible. Building a large production house offers advantages: you can build up reserves and hire permanent employees. But you are still dependent on orders by players who are also under a lot of pressure.”

“Streaming platforms provide a major opportunity: they offer producers more options to fund projects, including

Union does play a role in sharing rights and joint research, but there is no real European network. Most public broadcasters have historically focused on their own market. For a broadcaster like the BBC, European cooperation is not necessarily appealing if it can also partly fund a production itself and partly through Netflix.”

**Will it be easier for commercial media to gain a foothold in that changed ecosystem?**

“They are actively following the path of the platforms. They are shifting their focus online: Go Play, VTM Go and Streamz – the ‘Flemish Netflix’. This also gives them the opportunity to collect more data and use it for targeted marketing – an additional source of revenue.”

“Moreover, these days, ‘our’ commercial media companies are part of

**“Should VRT still try and reach almost everyone all the time? Or should it reach absolutely everyone – but not necessarily all the time?”**

with foreign money. But even then, it is still difficult to create a profitable sector. Look at the top series in recent years: ‘1985’, the first co-production of VRT and RTBF, and ‘Arcadia’, a Belgian-Dutch co-production and the most expensive television project of all time in the Low Countries. Both those series cost up to €10 million. Even if you can sell your series to an international platform, breaking even – in the sense of also recouping public funding – is not feasible. And since last year, we see that platforms have clearly put on the brakes. Even there, the initial optimism was quickly tempered.”

**Large platforms not only have deep pockets, but also sophisticated algorithms. How can VRT counter that?**

“I’m looking into that issue with SMIT’s MEP unit. With the support of a

fundamental research grant from FWO, we are studying how algorithm-driven offerings affect social and cultural transformations. Public broadcasters in Europe have a unique tradition: their offerings are determined by the wishes of the public, as well as by their social mission. That brings with it a great responsibility.”

“So maybe the first question is: does VRT want to develop such an algorithm? Most algorithms are based on viewing behaviour and dish out more of the same to you. Research shows that such a personalised approach increases engagement. But VRT’s task is also to offer viewers other perspectives. Today, public broadcasters are seriously struggling with the balance between curation – deciding for themselves what they show – and personalisation.”

“Currently, curation is still a relatively manual process and is not particularly ‘adventurous’. Editors should be a bit more daring by also giving atypical programmes a prominent place, and not just the big ratings guns. It’s the only way they can increase the visibility and findability of their offerings. And future-proof public broadcasting.”



# About the FWO

## What is the FWO

### The FWO: a unique place

New ideas, revolutionary insights, solutions to societal issues ...

Scientific research makes a decisive contribution to our society.

The FWO offers researchers in Flanders the opportunity to acquire knowledge. Through our financial resources, we support:

**Individual researchers** (professors, doctoral students, postdocs and their team): this is how we facilitate both fundamental and strategic basic research in Flanders. Candidate researchers themselves propose relevant topics.

**Tailor-made programmes and projects:** research programmes driven by researchers and specially designed programmes, such as applied biomedical research (TBM), aspire to meet specific needs.

**Research infrastructure**, both national and international, that provides our researchers with the tools they need to carry out their research at the highest level.

### Our approach

The FWO uses leading **international methods** to evaluate applications and allocate available funds. We set the tone in terms of peer review and let expert panels select the best research proposals. At the same time, we encourage **international cooperation**, both through projects and the exchange of researchers. Together with VLAIO, the FWO is also responsible for the NCP operations in Flanders. We want to **take the lead** in every field and strive for an innovative research policy, focusing on topical issues such as gender, diversity, open science, intersectoral mobility, knowledge security, the mental health of young researchers ...

## Our mission

The FWO aims to be the principal and largest funding partner for researchers in Flanders. By providing financial support and promoting international cooperation, we create an environment that is conducive to excellent scientific research. We are responsible for selecting the best research proposals based on international peer reviews. This ensures optimal use of the funding the FWO receives from, first and foremost, the Flemish government, as well as the federal government.

### Our approach

With our funding, we subsidise fellowships and research projects, infrastructure, travel grants and international scientific cooperation. We work closely with other funding agencies. In the future, we want to focus even more on:

**European and global cooperation:** We co-finance international research consortia, we participate in bilateral and multilateral cooperation, and we support promising researchers who just missed out on a hugely competitive European grant.

**Diversity and inclusion:** We create more space for diverse research profiles and have an eye for target groups that are not yet sufficiently reached, such as promising young people with a migration background or a less favourable social background.

**Innovative research:** We allow researchers to colour outside the lines and propose bold scientific ideas. We encourage mission-driven research involving crucial topics such as climate change, water quality or the fight against cancer.

**Strong research infrastructure:** We make every effort to provide today's and tomorrow's researchers with sufficiently strong research infrastructure, both at home and abroad.

**Open science:** We encourage researchers to permanently preserve their data and findings and share them responsibly with others. We encourage the use of Open Access, the FRIS research portal and other open science channels.

**Objective evaluation:** We apply the best international standards to evaluate applications and allocate our resources.

## Our vision

Through research with impact, we change the world and make knowledge-expanding breakthroughs possible. Excellent research allows the knowledge base on humans and their environment to be enhanced and promising avenues related to socio-economic value creation are explored. To achieve this, we fund fellowships and research projects, infrastructure, travel grants and international scientific cooperation.

### Our values

We subscribe to the values formulated by the Science Europe umbrella organisation for funders of scientific research. As a funding partner, we strive for:

- > **Autonomy and freedom** for researchers and their organisations;
- > **Consideration and collegiality** between researchers;
- > **Collaboration between researchers**, both national, international and cross-sectoral and inter-domain;
- > **Equality, diversity and inclusion** for all researchers;
- > **Integrity and ethics** when conducting and communicating any research;
- > **Transparency and openness** at every level.

In our day-to-day operations, we not only offer researchers our own resources, but also help them advance to the European and international levels. We maintain close links with various Flemish and European networks, associations, research institutes and funding agencies. We serve as a platform for the Flemish knowledge economy and strengthen its impact for the world, by deploying qualitative peer review within the various funding channels.

## Evaluation process

### Core selection principles for FWO funding

The main criterion on which all applications submitted to FWO are assessed is excellence.

Furthermore, the principle governing FWO research funding is that the applicant determines the subject of that research (**bottom-up principle**). Only calls under European Partnerships and other thematic calls are tied to a particular topic.

The third key principle is that applications are assessed in relation to other applications from the same universities and research institutions. FWO always bears in mind **inter-institutional competition**.

Last but not least, there is the guarantee of **transparency**, which we also expect from researchers and partners, and **equal opportunities**.

### Assessment of applications

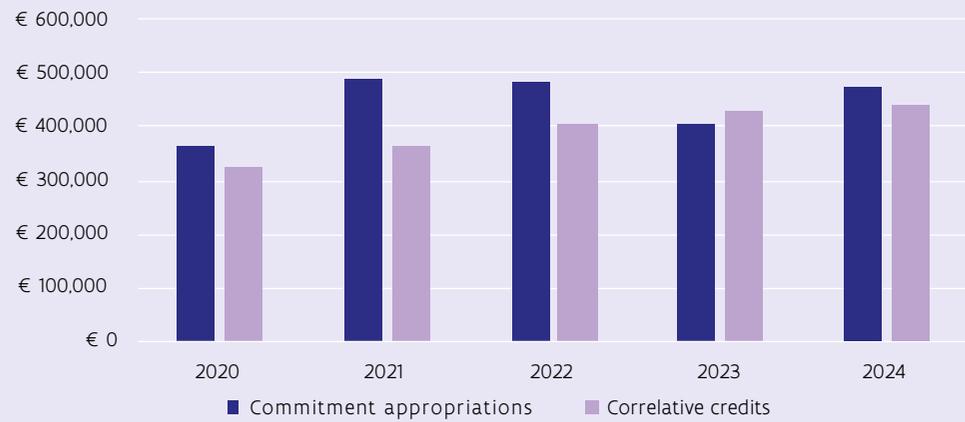
Applications are always assessed by scientific experts who conduct excellent research themselves in the field or discipline in question (peer review). FWO brings those researchers together in its panels and juries.

In addition to these **internal** assessors, we usually (but not for smaller-scale fellowships and applications) rely on **external** evaluators who are specifically sought on a case-by-case basis per application, based on their expertise on its subject matter.

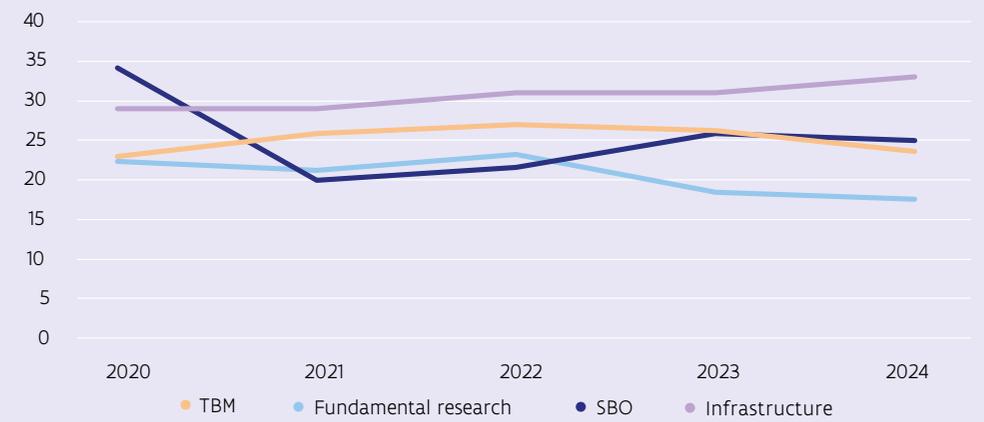
The panels and other evaluation bodies work under the guidance of the FWO administration and under the supervision of the Board of Trustees, which establishes the rules and procedures and makes the formal decision to award applications.

# FWO in figures

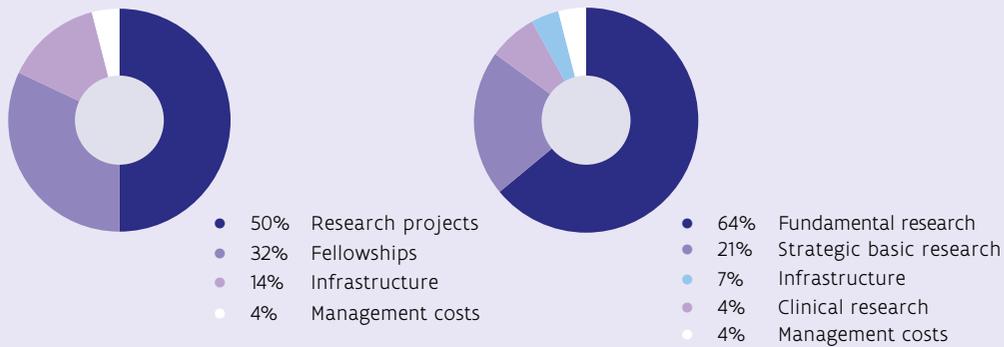
## Evolution of revenue



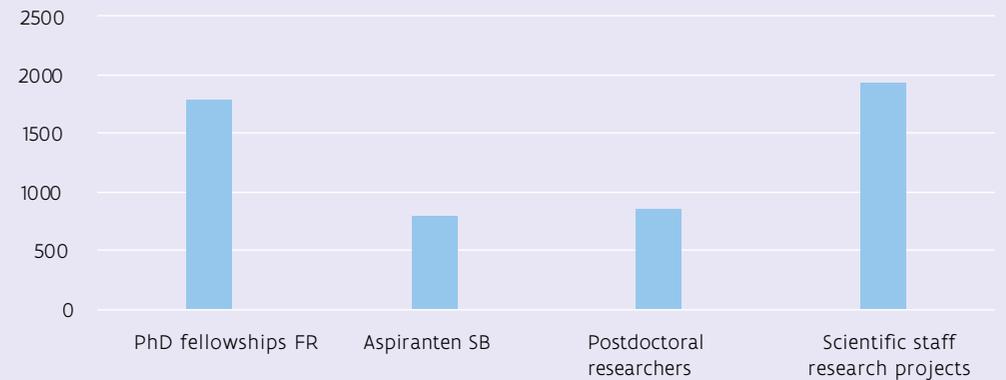
## Evolution of research project success rates



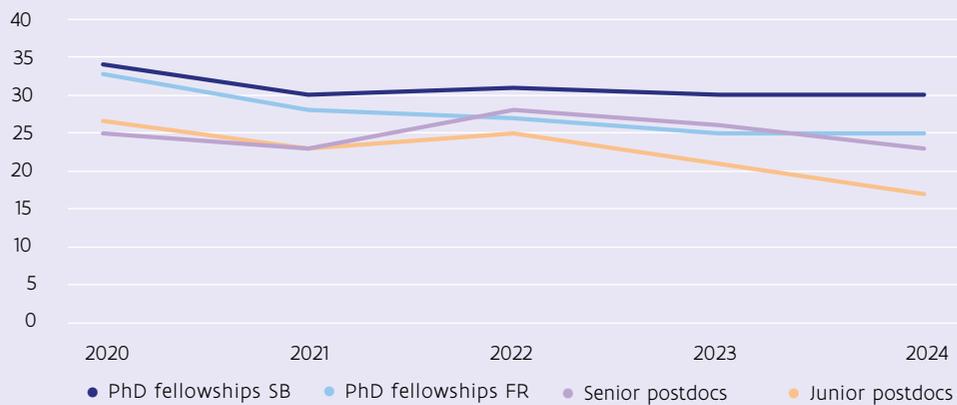
## Grant distribution



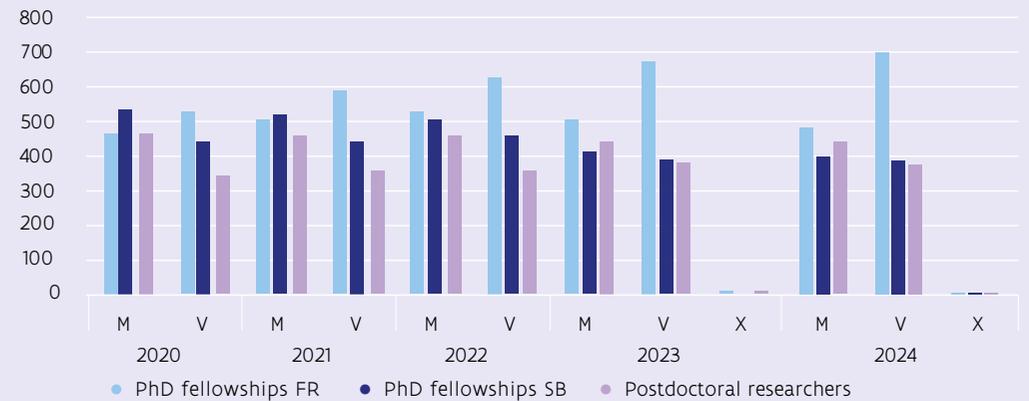
## Researchers employed (on 01/11/2024)



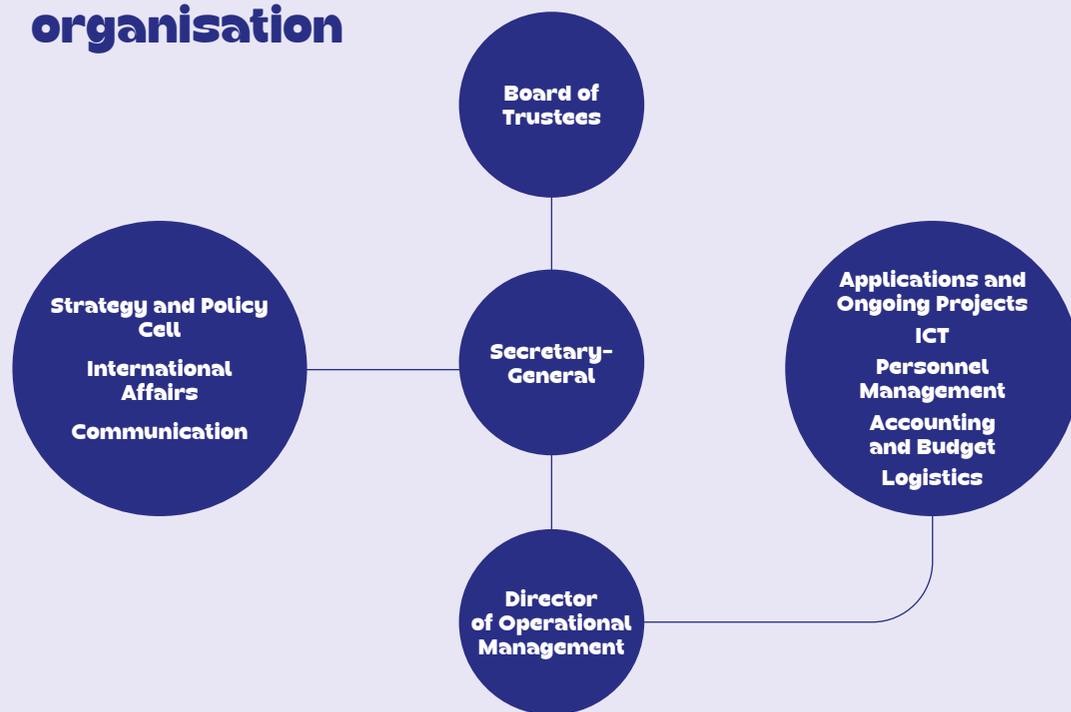
## Evolution of fellowship success rates



## Evolution of researchers employed (on 01/11/2024)



## Our organisation



### ESG reporting

ESG reporting ensures that an organisation can communicate efficiently and transparently about the social and environmental impact of its activities and its governance. The following three governance considerations and aspects are taken into account when reporting the ESG policy:

1. Environmental aspects (Environment)
2. Social/societal issues (Social)
3. Governance aspects (Governance)

The FWO annual report lists the various action points taken by the FWO with regard to each of these three aspects. Examples include:

- Commitment to raising awareness of CO<sub>2</sub> issues among FWO researchers through a sustainable travel policy.
- Offering panel members the option of online participation in panel meetings (hybrid meetings).
- For the FWO housing sustainability policy, the building falls under the Flemish Government's internal Climate Plan.
- A comprehensive well-being policy with the introduction of the right to disconnect, a well-being survey and workshop, provision of a whistleblower scheme and preparation of a training plan.
- The Corporate Governance Charter demonstrates how FWO implements the principles of corporate governance in relation to external autonomous agencies.

### Administration

The FWO team is always ready to assist researchers. It ensures the efficient organisation of the various evaluation processes within FWO to guarantee that the various projects and fellowships are awarded and followed up in a timely and qualitative manner. Our administration always aims for a researcher-friendly approach.

### Board of Trustees

The Board of Trustees takes decisions concerning the advice of the expert panels and other committees as well as FWO operations, budget and accounts.

## Current composition of the Board of Trustees

### Chair

**Blondé Bruno** - Professor - University of Antwerp

### Members

**Delcour Jan** - Professor - KU Leuven  
**Durinx Christine** - Managing Director - Vlaams Instituut voor Biotechnologie (Flemish Institute of Biotechnology)  
**Lagrou Katrien** - Professor - KU Leuven  
**Luyckx Dorien** - Business manager - Eos Wetenschap  
**Pareyt Bram** - R&D director GRS Lab - Puratos  
**Van Bael Marlies** - Professor - Hasselt University  
**Vander Beken Tom** - Professor - Ghent University  
**Vanderkerken Karin** - Professor - VUB  
**van Sas Jos** - Director External Affairs - Nokia Bell Labs  
**Van Speybroeck Veronique** - Professor - Ghent University  
**Vasseur Karolien** - Senior Project Leader - Umicore

### Members with advisory capacity

**Andries Mark** - Leading official - Flemish Agency for Innovation and Enterprise  
**Hanssens Johan** - Leading official of the Department of Employment, Economy, Science, Innovation and Social Economy

### Secretary-General

**Willems Hans** - Secretary-General - FWO

### Government representatives

**Gladinez Tom** - Deputy head of cabinet/ adviser EWI and Flemish Periphery Cabinet Deputy Minister-President of the Government of Flanders, Flemish Minister for Home Affairs, Urban and Rural Policy, Living Together, Integration and Civic Integration, Public Governance, Social Economy and Fisheries  
**Titeca Els** - Science policy adviser Cabinet Minister-President of the Government of Flanders, Flemish Minister for Economy, Innovation and Industry, Foreign Affairs, Digitisation and Facility Management

### Rapporteur

**Huysmans Danny** - Director of Operational Management - FWO

## Colophon

**Design and production**  
Pantarein Publishing

**Editor**  
Saar Van Acker

**Art Director**  
Janne Geelen

**Illustrator**  
Annelien Smet

## Stay informed

Would you like to stay informed about the various FWO programmes, our policy, FWO research and research results? Don't want to miss out on the stories of our researchers? Follow us on social media.



#FWOVlaanderen  
#Onderzoekersinbeeld

## Kennismakers

### Stories from, by and about scientists

Scientific research is closely linked to our daily lives. Without science, we might now be living in a world without the Internet, Velcro or antibiotics. Are you curious about what today's FWO researchers are working on?

Find out in our Knowledge Makers magazine  
[www.kennismakers.be](http://www.kennismakers.be).

## Contact us

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