

# ANNUAL REPORT 2023

VICE-RECTORATE INNOVATION & INDUSTRY RELATIONS

VRIJE UNIVERSITEIT BRUSSEL

-TOGETHER WE CONNECT SCIENCE AND SOCIETY-



**VUB TechTransfer** is the multidisciplinary operational team of the **Vice-rectorate Innovation & Industry Relations**. We take care of knowledge and technology transfer and exchange. Together with **VUB Foundation**, philanthropic fundraising, and **Crosstalks**, the transdisciplinary exchange platform of the VUB, we constitute the Vice-rectorate.

#### **OUR MISSION:**

**CREATING POSITIVE IMPACT BY CONNECTING INNOVATIVE VUB RESEARCH  
WITH INDUSTRY AND SOCIETY**

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# FACTS & FIGURES 2022



- VUB Main Campus
- VUB Health Campus
- VUB Photonics Campus Gooik
- VUB Usquare Campus
- VUB Brussels City campus
- Campus Coovi Anderlecht
- Campus Volt Diest
- Campus Leuven

## 8 FACULTIES

3,978 

 EMPLOYEES

22,313 

STUDENTS 

4,950 

EMPLOYEES UZ BRUSSEL

2,140 



IN **3** DOCTORAL SCHOOLS

**196** RESEARCH GROUPS  
INCLUDING 20 JOINT INT'L,  
31 VUB-UGENT AND 12 VUB-ULB

INCLUDING 20 JOINT INT'L,  
31 VUB-UGENT AND 12 VUB-ULB

 **EUR 144 M**  
RESEARCH BUDGET  
TOTAL VUB

 **EUR 13 M**  
REVENUE FROM CONTRACT RESEARCH WITH  
INDUSTRY AND VALORISATION OF RESEARCH



**2,628** ACADEMIC  
AND SCIENTIFIC PERSONNEL

An infographic showing the number of academic and scientific personnel. The text '2,628 ACADEMIC AND SCIENTIFIC PERSONNEL' is displayed in a large, bold, blue font. Below the text, there are 2,628 orange human icons arranged in two rows: the top row contains 1,314 icons and the bottom row contains 1,314 icons.

216 

## PATENT FAMILIES



# 49

## SPIN-OFF COMPANIES

EUR 2.54 M  
INCOME

FOUNDATION 

## INDUSTRIAL RESEARCH FUND

SUPPORTING **21 GEARS**  
OR GROUPS OF EXCELLENCE IN APPLIED RESEARCH

**EUR 34.4 M** €  
APPLIED RESEARCH  
APPROVED PROJECTS



*"At the heart of our university's mission lies the pursuit of knowledge, but it's in the practical application of that knowledge, guided by the needs of society and industry, where we truly make an impact."*

Hugo Thienpont, Vice-rector Innovation & Industry Relations

# INNOVATING FOR IMPACT

Welcome to the Annual Report of the Vice-rectorate Innovation & Industry Relations showcasing innovation and impact at the Vrije Universiteit Brussel (VUB) in 2023. Despite global economic challenges resulting from geopolitical shifts, our commitment to excellence in research and valorisation remains unwavering. VUB researchers continued to excel in crafting high-quality project applications and driving forward valorisation efforts, as can be deduced from the results presented within these pages. Particularly noteworthy is our strong performance in securing funding from Horizon Europe, resulting in VUB ranking in the top 20 universities in Europe.

With its industrially/socially focused research, the VUB wants to pursue real impact creation and thus further develop and strategically implement knowledge and technology transfer and valorisation opportunities. By generating more resources that can be reinvested in research and valorisation, the VUB wants to grow as a whole. In doing so, it wants to have a positive impact on the society it is part of, with an eye for equality, well-being and the sustainable development goals formulated by the United Nations. With this vision, the VUB wants to strengthen its position as one of the important Flemish and European universities in the field of research valorisation. Collaboration with existing companies and creation of new economic activities in the form of spin-offs remain the obvious ways to achieve this, but other forms of societal valorisation are also being explored and encouraged.

This achievement is also due to the visionary leadership of Vice-Rector Hugo Thienpont, who has dedicated nearly nine years to prioritizing and advancing research valorisation. His mandate as Vice-rector will end in September 2024 and he will continue his activities at the Photonics Innovation Centre in Gooik, focusing not only on collaboration with industry, but also stimulating young people's interest in science, technology and the arts through the creation of a STEAM Academy. His entrepreneurial mindset and influence on the evolution and expansion of our Vice-rectorate are very tangible in the annual reports published every year since 2015 (which can be found on the 'media' page of our website [vubtechtransfer.be](https://vubtechtransfer.be)).

VUB TechTransfer, the operational team of the vice-rectorate, together with its colleagues from VUB Foundation, the philanthropic fundraising team, and Crosstalks, VUB's transdisciplinary exchange platform, are very grateful for his support in realizing a collective vision of an innovative and impactful university.

We kindly invite you to discover in this report what the VUB has achieved in 2023 in terms of valorisation of applied research!



Sonja Haesen,  
Director VUB TechTransfer



# GROUPS OF EXCELLENCE IN APPLIED RESEARCH (GEARs)

## ADVANCED GEARs:



Photonics



Electromobility



Human Robotics

## CONSOLIDATOR GEARs:



Artificial Intelligence



Sustainable Chemistry



Structural Biology



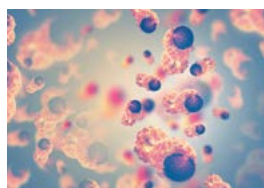
Sustainable Material Technologies



Tech4Health



Accoustics & Vibration



INTEGRAL - Immunotherapy



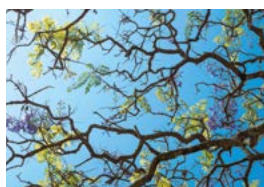
Cybersecurity & Health



Gene Therapy



Algorithmic Systems



House of Sustainable Transitions

## STARTER GEARs:



Peptidomimetic TheranOstics



Industrial Food Biotechnology



Liver research



Software Systems



Advance Imaging



Microfluidics



AI in Neurology

# GOVERNMENT FUNDING FOR STRATEGIC & APPLIED RESEARCH

## FROM FLANDERS, BRUSSELS, EUROPE

The strategic and applied research output of the universities influences the regional innovation degree and reinforces the economic landscape. On the other hand it generates revenue for the university which can be reinvested in research. Government funding from Flanders, Brussels and Europe is crucial to support this valorisation of research. In 2023 **governmental funding for approved strategic and applied research projects** at VUB amounted to **€36,863,580**. A positive trend is the fact that, besides Science, Technology, Engineering and Mathematics or STEM-oriented projects, more and more projects from the Social Sciences, Humanities and the Arts (SSHA) are introduced.

### VUB TechTransfer offers assistance and support to researchers for:

- Projects financed by the Industrial Research Fund of the VUB (Flemish government funding)
- Flanders VLAIO & FWO calls
- Brussels-Capital Region funding through Innoviris
- Projects with SOCs and spearhead clusters
- Innovation driven EU projects
- Financing for applied projects with valorization potential by other (international) organisations or administrations

## VUB INDUSTRIAL RESEARCH FUND FOR RESEARCH GROUPS THAT EXCEL IN STRATEGIC AND APPLIED RESEARCH

VUB TechTransfer supports projects financed by the **Industrial Research Fund (IOF – Industrieel OnderzoeksFonds)**. Since 2004 associations receive this **Flemish government funding** according to their valorisation output performance: contracts with industry, the number of patents and spin-offs, share in the European Framework Programme for R&D, number of PhD's obtained and publications and citations. The VUB invests IOF funding in knowledge centers that exceed the average scale of a standard university's research unit, the '**Groups of Excellence in Applied Research**' or **GEARs**. They have to elaborate a long-term strategic research strategy, demonstrate leadership, and develop new application-oriented inventions with economic potential.

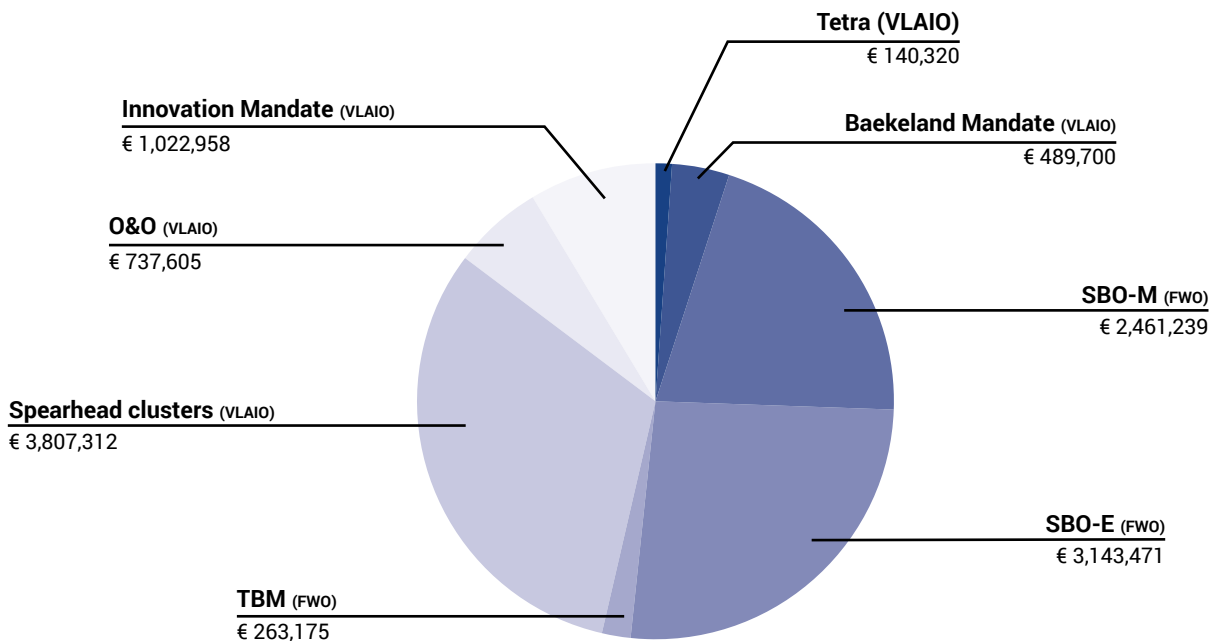
Because of an increase in the overall budget and a significant improvement in output from the VUB, the amount allocated under the IOF to the University Association Brussels (UAB) amounted to **€6,345,207 in 2023**.

**A total of 21 GEAR groups receive funding from the Industrial Research Fund. The overview can be found on the left-hand page.**



## FLANDERS PROJECT FUNDING

**2023: VUB received € 12,065,780 funding from FWO (Fonds Wetenschappelijk Onderzoek) and VLAIO (Agentschap Innoveren & Ondernemen) for strategic basic and applied research**



### Research Foundation - Flanders (FWO)

The **Strategic Basic Research programme (SBO)** concerns innovative research that offers prospects for later economic or social applications. In 2023 this resulted in:

- **SBO-E (economic finality): 2 approved projects:**
  - *Lignin based dynamic and circular thermosets (LigDYN)* - **Niko Van den Brande, Guy Van Assche, Tom Hauffman, Iris De Graeve**
  - *RevalExo: a wearable lower-limb exoskeleton that assists activities of daily living and enables data-driven remote rehabilitation* - **Tom Verstraten, Eva Swinnen, David Beckwée**
- **SBO-M (societal finality): 3 approved projects**
  - *Primary prejudice: Tackling identity-based bullying in pre- and primary school* - **Dieter Vandebroeck, Els Dumortier**
  - *1-2-3-MOVE! Co-created initiatives focused on MOTOR COMPETENCE to kick-start 1 to 3-year-old Flemish toddlers' developmental trajectories* - **Eva D'Hondt**
  - *From Camp to Campus: Social Investment in Refugees and Newcomers through Higher Education* - **Tuba Bircan**

The **Applied Biomedical Research programme (TBM)** wants to contribute to the long-term implementation of new therapies, diagnostics and prevention methods for which there is not sufficient interest from industry. VUB TechTransfer intensively supports these project applications to increase the chances of success. 2 projects were approved in 2023.

- *Aha BOOST. Arm-hand BOOST therapy to enhance recovery after stroke: clinical, health economic and process evaluation* - **Koen Putman, Ann De Smedt, Maaïke Fobelets**
- *Ultra-sensitive minimal residual disease assessment by blood-based clonotypic mass spectrometry approach in plasma cell dyscrasias (MASSIAS)* - **Ivan Van Riet, Marleen Bakkus**



## Flanders Innovation & Entrepreneurship (VLAIO)

VLAIO stimulates innovation in companies, which is essential for economic growth in Flanders. Cooperation with the academic world is crucial for this. Collaboration with the academic world plays a crucial role in this process, with a strong focus on addressing the needs of businesses.

### Baekeland mandates

With Baekeland mandates, aimed at a doctorate, VLAIO wants to support research that has an economic finality and offers added value for the company involved. In 2023, **2 Baekeland mandates were approved**.

- *Ab initio moleculaire dynamica methodologie voor het berekenen van Raman spectra van vaste elektrolyten* - **Frederik Tielens**
- *Plasma-based CO2 conversion: Energy-efficient separation for continuous CO production* - **Tom Van Assche**

### Innovation mandates

An Innovation mandate is specifically intended to allow postdoctoral researchers to carry out a project in close collaboration with the business world, either with an existing company or with a view to establish a new company. In 2023, **3 mandates were granted**.

- *EVOZymes Development Platform* - **Joery De Kock, Tamara Vanhaecke**
- *Quantitative Assessment of Blood Flow and Tissue Perfusion Using Four-Dimensional Computed Tomography* - **Nico Buls, Jef Vandemeulebroucke**
- *Augmented Reality Based Surgical Navigation Using Real-Time Portable Head Mounted Systems* - **Jef Vandemeulebroucke**

### Tetra projects

TETRA is a programme for practice-oriented research. In 2023, 1 Tetra project was approved.

- *circulairebouwknopen.be* - **Waldo Galle**

### Financing from Spearhead Clusters

Spearhead Clusters facilitate a network of companies active in a specific domain, and develop an ambitious long-term strategy and competitiveness program for Flanders' strategic domains, in collaboration with knowledge centers and the government. The focus of the Flemish cluster policy lies on a limited number of large-scale and ambitious Spearhead Clusters: Catalisti (sustainable chemistry and synthetics), SIM (materials, circular economy), FLUX50 (green energy, mobility), VIL (logistics and transport), Flanders Food (agrofood), Blue Cluster (wind energy, aquaculture) and the most recent one MEDVIA (healthcare innovation).

7 Cluster projects were approved for VUB in 2023:

- *Blue cluster: WETCOAST: Coastal climate adaptation and mitigation services of newly created marshes and mangroves* - **Tom Van der Stocken**
- *Intercluster: FIRMEST - Fast and reliable prognostic tools for fatigue (re)assessment of OWT substructures for new and existing wind farms* - **Wout Weijtjens, Christophe Devriendt**
- *Intercluster: FOOS - Forced Oscillations* - **Wout Weijtjens, Christophe Devriendt**
- *Intercluster: Mapping and evaluation of carbon capture and utilization technologies for low-flow or low-concentration industrial CO2 emissions (Map-it CCU)* - **Joeri Denayer**
- *Intercluster: CORE* - **Jan Helsen**
- *SIM: TECOTON* - **Hubert Rahier, Tine Tysmans**
- *SIM: Photo-AUP - Photo Crosslinkable Urethane-based Biodegradable Polymers for Light-based 3D-Printing and Coating Applications* - **Joost Brancart**

### Strategic Research Centers (SOCs)

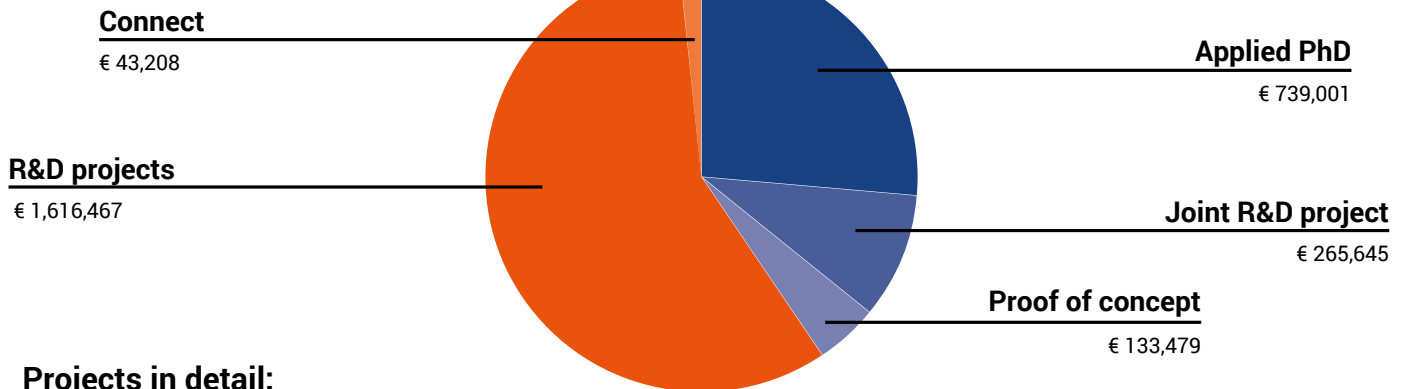
SOCs have been created as a result of excellent scientific research in broad domains such as nanoelectronics and digital technologies (imec), biotechnology (VIB), cleantech and sustainable development (VITO) and the manufacturing industry (Flanders Make). They build bridges between fundamental and applied research and are important for Flanders' economy. VUB participates in these Strategic Research Centers.

# BRUSSELS PROJECT FUNDING

VUB TechTransfer supports researchers applying for funding for strategic research with valorisation perspectives from the Brussels-Capital Region. For 2023, 7 projects were approved through Innoviris for a budget of € 2,797,800.

## Budget approved Innoviris projects in 2023

Total budget € 2,797,800



## Projects in detail:

### Applied PhD

The Applied PhD programme funds doctoral mandates, which are carried out in collaboration with an industrial partner or a public institution. 2 projects with a HSW perspective were selected for funding.

- *A Pilot study of Wellbeing and Resilience Building Training for transgender, non-binary, gender non-conforming and gender-fluid persons in Brussels Capital Region* - **Imke Baetens, Kris Baetens, candidate Laura Maria Lingenti**
- *Revealing the Senne: a hidden landmark in the historical center of Brussels* - **Yannick Devos, Ralf Vandam, candidate Dries Vergouwen**

### POC

The proof of concept (POC) programme funds the demonstration of the feasibility and economic viability of an innovative technology, method or idea derived from prior scientific research. This call is open throughout the year. 1 project was submitted and approved.

- *ANTIDOTE: SLIT-ROBO Library screening and hit validation for pancreatic cancer* - **Steven Ballet**

### Joint R&D project

The goal of the Joint R&D project call is to encourage collaboration between academics and entrepreneurs in the Brussels-Capital Region. In 2023, 1 project was approved.

- *PREMAi Predictive maintenance: bridging the gap between BMS & operations for more sustainable buildings* - **Johan Loeckx, Ann Nowé**

### R&D projects

With this action Innoviris finances industrial research projects. The results can be used to fine-tune a product, process or service.

3 projects were approved in 2023.

- *COMPOST: Mechanically recycling thermoplastic composite overmolded part production scraps into new parts* - **Lincy Pyl, Danny Van Hemelrijck**
- *Small foot: Combined development of a solvent-less LIB electrode(s) fabrication process with a small environmental footprint* - **Frederik Tielens**

### Connect

For the above projects financing can be applied to cover the costs of writing a full proposal.

# EU FUNDING SUPPORT FOR PROJECTS WITH ECONOMIC AND SOCIAL PURPOSE

The **European Research & Innovation Support** or **ERIS team** of **VUB TechTransfer** focuses on **European programmes and calls in strategic and applied research**. The ERIS team stimulates researchers to apply for funding, and intensely supports them throughout the pre- and post-award trajectory through their i-ISO concept (see figure below).

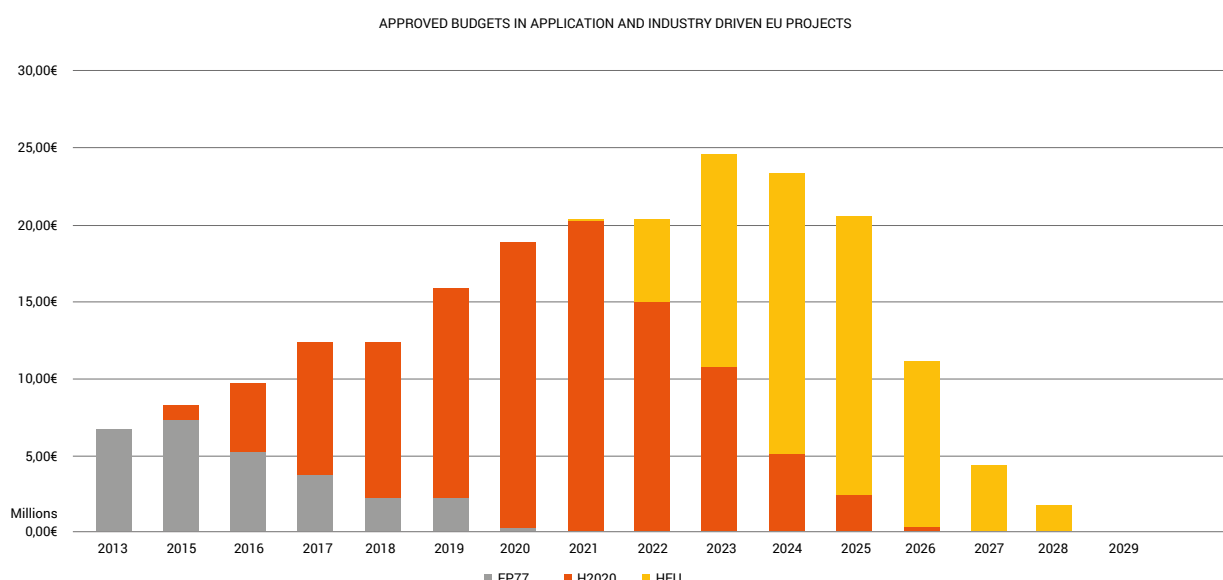
In **HORIZON EUROPE**, launched in 2021, ERIS-TechTransfer takes on the full supervision of Pillar II programmes with the 6 Clusters and Joint Research Centre as well as Pillar III programmes with the European Innovation Council (EIC), European Innovation Ecosystems (EIE) and the European Institute of Innovation and Technology (EIT).

Besides **HORIZON EUROPE**, ERIS also has a range of other initiatives such as **INTERREG**, **DIGITAL EUROPE**, **CREATIVE EUROPE**, specific DG initiatives and calls, **European Science Foundation (ESF)**, **CORNET**, **CERV** programme and all **ERANET** and **JPI** networks in which **Innoviris** or **VLAIO** participate.



ERIS-TechTransfer had an exceptional result in 2023 with no fewer than **68 projects approved**, accounting for a total budget of **22M €**. VUB is now in the top 20 universities in terms of Horizon Europe funding and acquires on average more resources per researcher than the other Flemish universities.

The **figure below** shows the growth in EU funding for strategic and applied research to VUB. The figure is constructed by including all budgets of approved projects, spread over their duration.



In 2023, Vrije Universiteit Brussel (VUB) has achieved remarkable success in Horizon Europe, ranking in the top 20 university recipients of Horizon Europe funding (and third among Belgian universities), with a remarkable grant of approximately €37 million covering involvement in 119 projects in fundamental and applied research since the launch of Horizon Europe.

This accomplishment reflects VUB's dedication to research and innovation. The university's growing role in addressing worldwide challenges and in enhancing Europe's industrial strength is evident and growing.

# SUCCESS CASES 2023

## SUCCESSFUL EU INNOVATION DRIVEN PROJECTS

### SOCIAL SCIENCES & HUMANITIES

Prof. Dr. **Tuba Bircan** is a social scientist and head of VUB's AI, Migration and Society (AIMS) Lab, as well as a researcher at Cambridge University. She is a.o. promotor of the EU funded **DE-CONSPIRATOR** project '**Detecting and Countering Information Suppression from A Transnational Perspective**'.

Over the last few years, Foreign Information Manipulation and Interference (FIMI) has grown into a significant threat to democracies worldwide. Against this, the project aims to provide novel insights, categories, concepts, measurements and empirical results, to help counter FIMI and information suppression in the EU and partner countries. DE-CONSPIRATOR aims to provide a clearer view of why foreign states engage in information manipulation and suppression, why domestic actors in and across the EU consume and spread such dynamics, and how to think about and measure why certain forms of FIMI become "more successful" than others.

VUB is partner in this project | Budget: € 2,999,766



### SCIENCE & ENGINEERING

The Horizon Europe-funded project **REFORMERS - Renewable Energy Valleys** is coordinated by prof. Dr. **Thierry Coosemans**, Project Coordinator of the EVERGi research team at VUB, and by NEC - New Energy Coalition, the Flagship Valley Coordinator. The research team will combine and integrate existing and innovative technologies for the generation, storage and distribution of green energy, such as renewable electricity and green hydrogen. The researchers will use new algorithms and a digital twin.

With a large test site at the Boekelermeer business park in Alkmaar, the Netherlands, 28 partners from 10 European countries with the VUB as the central hub, aim to prove how so-called Renewable Energy Valleys (REV) can be the optimal energy system for small to medium-sized industrial sites surrounded by residential and agricultural areas.

VUB is coordinator | VUB budget of almost 2M €



### LIFE SCIENCES

Prof. Dr. **Karine Breckpot** is director of the Laboratory for Molecular and Cellular Therapy (LMCT) of the VUB, focusing on cancer immunology and immunotherapy, designing novel immunotherapies using technologies such as mRNA, lentiviral vectors and antibodies, including camelid single domain antibodies. The project **BAXERNA 2.0 'Immunopeptidomics-based Development of Next-Generation Bacterial mRNA Vaccines'** will establish a new vaccine development pipeline that relies on

breakthrough technologies for the development of novel mRNA vaccines against Mycobacterium tuberculosis (MTB), Mycobacterium ulcerans (MU), and Acinetobacter baumannii (AB). The new pipeline will overcome current limitations in vaccine development, namely a lack of known antigens and weak cellular immune responses. The technologies will consist of advances in mass spectrometry-based proteomics and novel vaccines such as mRNA vaccines. The novelty of the project is especially the combined application of these technologies, which will form the blueprint for next-generation bacterial vaccine development.

VUB is partner | Total budget: € 8,859,050





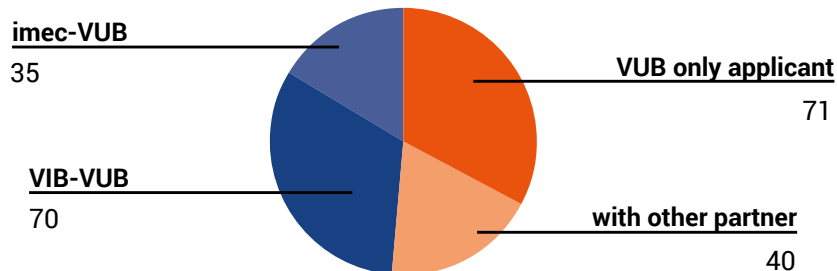
# INTELLECTUAL PROPERTY (IP) MANAGEMENT & LICENSING

Licensing of research results facilitated by VUB TechTransfer, generates income for the university, creates structural collaborations with companies and gives tangible impact to VUB R&I. At the basis of this licensing lies a strong portfolio of intellectual property (patents and patent applications, software, confidential know-how, design rights, trademarks, etc.). In case of a VUB spin-off company a privileged relationship with a lab is beneficial to the growth of the company, in particular in its early development stages.

VUB technologies available for licensing or for R&D partnerships are communicated through bilateral contacts with industry, networking and matchmaking events, the VUB TechTransfer website, monthly external newsletter and LinkedIn, conferences such as knowledge for growth, and other specific channels.

In 2023 the numbers were again impressive: **59 inventions were disclosed** and **29 new patent applications** were filed with VUB as (co-)applicant. The total VUB-portfolio included **216 active patent families**, of which 71 are owned exclusively by VUB. 70 active families are co-owned with VIB, 35 with imec and 40 with other research institutes and companies, illustrating the substantial amount of R&D collaboration with third parties. In fact, we have noticed a 50% increase in the number of active patent families since 2018.

## # Active patent families: 216



## REVENUE FROM VALORISATION AND CONTRACT RESEARCH WITH INDUSTRY

Through contract research and licensing of technologies with industry and other third parties (profit/non profit), the university can develop and maintain long-term cooperations and implement its knowledge in society. In some cases contract research is supported by governmental financing. **The total funds from collaborations with the private sector amounted to approximately €13.1 million in 2023.**

These funds can be reinvested in university research. Important to note is that not all revenue from VUB research in cooperation with spearhead clusters and strategic research centers is included in this amount.

# EUTOPIA

Since 2019, VUB TechTransfer has been involved in the ambitious **EUTOPIA project**, which is carried out by an alliance of 10 like-minded universities willing to reinvent themselves and shape the university of the future: Babeş-Bolyai University in Cluj-Napoca (Romania), Vrije Universiteit Brussel (Belgium), CY Cergy Paris Université (France), de Ca' Foscari University in Venetië (Italy), de Technische Universität Dresden (Germany), the Göteborg University (Sweden), de University of Ljubljana (Slovenia), the NOVA-university in Lissabon (Portugal), the University Pompeu-Fabra in Barcelona (Spain) and the University of Warwick (United Kingdom).

In 2020, the VUB Tech Transfer Office became closely involved in the **EUTOPIA-TRAIN** project. EUTOPIA-TRAIN is an extension of work package 3 in the EUTOPIA 2050 project and has a specific focus on research and innovation. It aims to create pan-EUTOPIA research and innovation communities and open them up to businesses, students, policymakers and society. On 31 December 2023, the EUTOPIA TRAIN project was successfully completed, delivering all agreed outcomes. Our involvement does not stop here; we remain responsible for integrating TRAIN results within the **EUTOPIA More** project. By doing so, we ensure an effective focus on cutting-edge research and innovation, and ensure that knowledge transfer is maintained at a high level.

**Two EUTOPIA weeks** took place in 2023, in **Lisbon (NOVA)** and **Dresden (TUD)**. During these events, VUB TechTransfer took advantage to strengthen bilateral contacts with partner universities. A notable result of this was TUD's first international Network Studio, in which a 20-strong delegation of VUB researchers and support staff travelled to Dresden to work in workshops with TUD's equivalent experts. This mission should lead to concrete projects between EUTOPIA partners that can be submitted to regional and European funding channels. This is important to demonstrate the added value of EUTOPIA to policymakers.

VUB - via TechTransfer - is project coordinator of the **EUTOPIA Health** project submitted and approved in 2023. This Widera call includes a total amount of €5 million over 5 years, of which €409,000 for VUB. Within TechTransfer, the ERIS team is taking the co-lead on WP3. This work package aims to increase activity in applying for EU funding for the Widening-countries within the EUTOPIA consortium and optimise their success in Horizon Europe.

## ENTREPRENEURSHIP EDUCATION



To raise more awareness of (technological) entrepreneurship among master and (post) doctoral students, researchers and young professionals, VUB TechTransfer has organised 2 evening courses in 2023. The **Starter Seminars** provide a short but intensive introduction to entrepreneurship and business. A variety of topics is covered such as developing a business plan, finance, marketing and the complex issues surrounding patenting. The **Advanced Starter Seminars** are a follow-up course where business aspects and starting up a company are treated more in-depth. Marc Goldchstein, Officer Entrepreneurship Education at VUB TechTransfer, is the main lecturer and content coordinator. Expert-speakers from the VUB or the business world are also involved. Entrepreneurs from VUB spin-offs testify on the startup phase and their experience at several seminars.

### In 2023

- Launch Event and info session 3 October 2023
- Seminar 'Academic entrepreneurship in practice' on February 14 with testimonials by VUB spin-offs Precirix and weave.ly. Open to participants of both series and external parties
- # participants for both courses: 38
- LinkedIn VUB TechTransfer Entrepreneurship Community keeps growing: 314 members

# UNIVERSITY SPIN-OFFS

Through the creation of spin-off companies, the VUB can valorise research results socially and economically and realise a return to the VUB and its research groups.

VUB TechTransfer plays a crucial role in identifying, supporting and evaluating VUB spin-off projects. To maximise the survival of a start-up, a lot of attention is paid to other factors than the innovative technology, such as market strategy, value proposition and a complementary team. **In 2023, 4 spin-off companies were launched from the VUB, of which 2 together with UGent: Sentometrics, Presscuff, Bitagreen and Bio Inx**, bringing the number of active VUB spin-offs to 49.

## New spin-offs in 2023:



### **Sentometrics** **UGent/VUB spin-off - Monitoring the news about ESG, financial health and reputation of EU companies**

The company was founded in 2023 as a spinoff from VUB and UGent specializing in cutting-edge machine analysis of textual resources. It has raised capital in September 2023 among industry specialists. The board members are Kris Boudt (CEO), Olivier Delmarcelle (CTO), Mikael Petitjean (UC Louvain), and Tom Wuytack (Belga). Sentometrics won the 2023 Innovative Starters Award by Innoviris and participated in the 2024 Katapult Fundtech 360° acceleration program organized by the Luxembourg House of Financial Technology.

<https://sentometrics.com/>



### **Presscuff** **VUB/UZ Brussel spin-off - The 1st Pressurized Endotracheal Tube**

Presscuff, introducing the world's first pressure-based endotracheal tube to the market, was founded by Emiel Suijs, former head nurse of the Intensive Care Unit at UZ Brussel, VUB Prof Dr Spapen, former head of the Intensive Care Unit, and VUB-alumnus Evert Van Meeuwen. This pioneering technology is designed to significantly reduce the incidence of pneumonia in patients receiving intensive care.

<https://presscuff.com/>



### **Bitagreen** **Transforming Cities for a Resilient Future with Speed, High Resolution & Integrity**

Bitagreen is a global privately founded engineering and consulting spin-off of the VUB, providing legendary client service and innovative solutions in water, environment and assurance. In 2019, Bitagreen was awarded funding by Flanders Innovation & Entrepreneurship (VLAIO) in the context of a research activity at the Hydrology and Hydraulic Engineering department of the VUB. Bitagreen was started up with a commitment to maintaining the constant pursuit of excellence to make the world better for all. The company was co-founded by Dr. ir. Nora van Cauwenbergh, an expert in water and sustainable development with many years of experience in academia and the private sector, and Dr. ir. Nahad Helmi, product development leader and passionate about sustainability initiatives in water and climate industries.

<https://www.bitagreen.io/>



### **Bio INX** **UGent/VUB spin-off - Materials and bio-inks for 3D bioprinting or biofabrication**

This spin-off company focuses on the commercialisation of materials and bio-inks for 3D bioprinting or biofabrication by utilizing decades of academic experience in the field of polymers and biomaterials. By offering a unique material portfolio with a diverse range of material properties, the applications become nearly limitless: the bio-inks can be applied for various tissue types with applications in regenerative medicine and drug and cosmetics screening. Additionally, by offering a bio-ink portfolio suitable for multiple printing technologies, attainable resolutions range from hundreds of micrometers to hundreds of nanometers. Co-founders are Jasper van Hoorick (CEO), Coralie grant (COO), Aysu Arslan (CSO) and Agnes Dobos (Application Specialist).

<https://bioinx.com/>



Visual IOF-TTO event 'Innovation & Impact in a Rapidly Changing World'

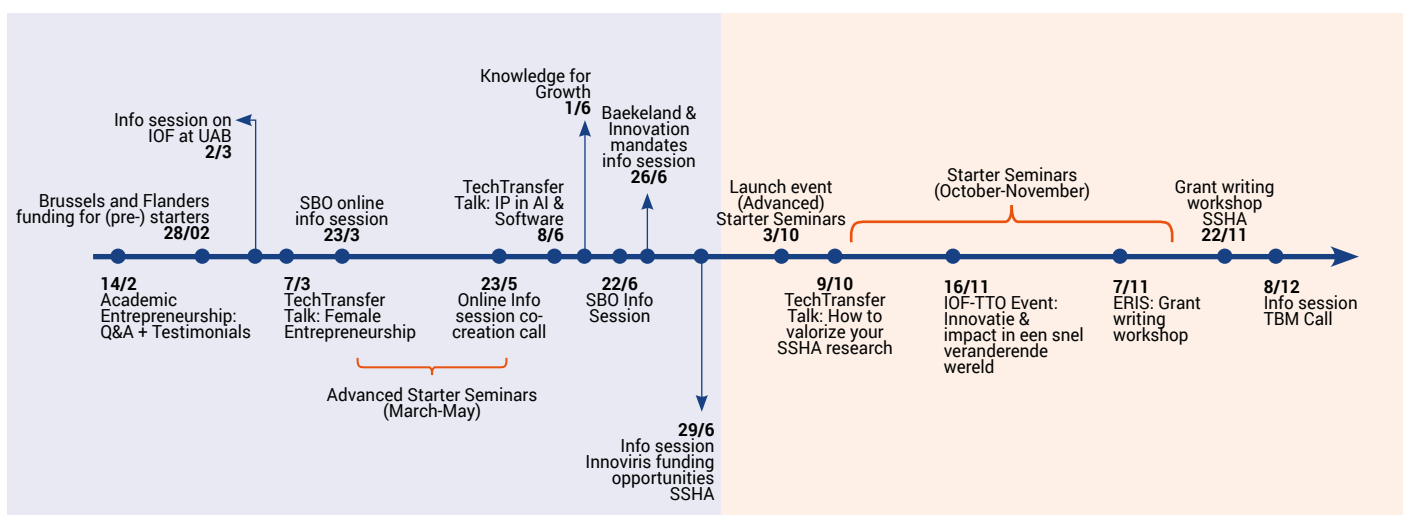
# TECHTRANSFER COMMUNICATION & EVENTS

The VUB TechTransfer communication cell supports the mission **"Together we connect science and society"** by facilitating communication both internally with VUB researchers and externally to the broader public. We also organise and participate in various events to strengthen this connection.

In 2023, VUB TechTransfer coordinated the annual **IOF-TTO event** entitled **"Innovation & Impact in a Rapidly Changing World"** with keynote Jonathan Holslag on geopolitical evolutions and implications for innovation, followed by a debate. Special focus was on AI, ethics as well as useful tools. This event featured interactive workshops, best practice sharing, and insightful lectures for the TTO colleagues as well as mandatories and business developers of the Industrial Research Fund (IOF) of the 5 Flemish universities. More than 120 persons attended the event.

Additionally, we introduced the **"TechTransfer Talks"**, a series of at least three sessions per year destined to VUB researchers on topics relevant to technology and knowledge transfer, replacing the former TechTransfer Week. In 2023, there were talks on 'Female Entrepreneurship', 'IP in AI and Software' and 'How to valorise your SSHA research'. We continued to organise several **information sessions** on project calls and participated in the **Knowledge for Growth** conference with TTO Flanders. On the first day of the conference, a live academic pitch session was organised where 10 researchers (2 from each univ) presented their biotech projects. For VUB 2 researchers from the In Vivo Cellular and Molecular Imaging (ICMI) were selected to pitch. There was also a booth with TTO Flanders where visitors could get information about TTO Flanders and related biotech research at the 5 Flemish universities. Last but not least, we also produced the **(Advanced) Starter Seminars**, 2 evening courses on entrepreneurship.

The following timeline shows, events and other activities supported by the communication cell in 2023.





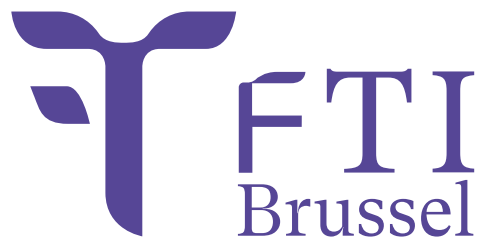


In March 2023, we released and promoted an **animated video** entitled “**How to Launch Your Spin-off**” to encourage researchers to contact VUB TechTransfer to support them in starting a VUB spin-off.

In print we have issued the **Annual Report 2022** and contributed to the **Facts & Figures of the VUB** with a general as well as a detailed part on Innovation & Industry Relations.

To enhance our external communication on innovative research, we have significantly focused on **LinkedIn**, where we share weekly updates on collaborations, innovations, licenses, events, approved EU projects and more. This policy is paying off, as we have more than 1,400 followers. We also distribute a **monthly newsletter aimed at business stakeholders**. **Internally**, we continued to send out our **weekly TT News** with information on project calls and interesting topics and events for VUB researchers.

In August 2023, VUB TechTransfer became coordinator of **FTI Brussel**, part of **Flanders Technology & Innovation (FTI)**, a one week festival in March 2024 in 6 cities. The coordination, production and communication were started with the objectives of ‘putting Brussels and the VUB firmly on the map as an innovative hub and university, and getting young people excited about STEM’. The VUB chose **Artificial Intelligence & Robotics** as the main theme, which provided a guideline for various activities. In addition, the focus was on **Photonics, Life Sciences & Biotech, Energy, Electromobility and Sustainability**, areas in which VUB also excels. A program was prepared with events around these themes at various locations in and around Brussels, where possible in cooperation with partners. A **website ‘FTI Brussel’** was very quickly created. To spotlight technology and innovation, a webpage was added with ‘**stories**’ about pioneering research within the themes. These stories were intended to excite potential visitors to the FTI Brussels festival and were actively promoted via LinkedIn and other channels. At FTI’s request, a new **LinkedIn account FTI Brussel** was also created.



- More than 12,500 people visited our VUB TechTransfer website and about 22,300 pages were viewed.
- We send out a weekly internal TechTransfer News to all academic personnel and a monthly TechTransfer News to the outside world, to about 500 subscribers, still growing.
- Our efforts on LinkedIn are paying off: the VUB TechTransfer LinkedIn page has about 1400 followers, 550 more than the year before.

VUBTECHTRANSFER.BE

TTOFLANDERS.BE

FTIBRUSSEL.BE

# VUB FOUNDATION

## VUB. EVERY DONATION RETURNS.

The **VUB Foundation** raises philanthropic funds from companies, organisations, institutions and individuals within the framework of the department TechTransfer of the Vicerectorate of Innovation & Industry Relations. The VUB Foundation coordinates all fundraising, such as gifts, sponsoring, chairs, funds by name and legacies at the VUB under the supervision of the Innovation and Valorisation Board.

For each philanthropic donation, there is a societal return. This is the conviction whereon the policy of the VUB Foundation is based. Each contribution supports education, research, innovation or the heritage of the VUB. The knowledge and insights that arise from these contributions, eventually flow back into our society.

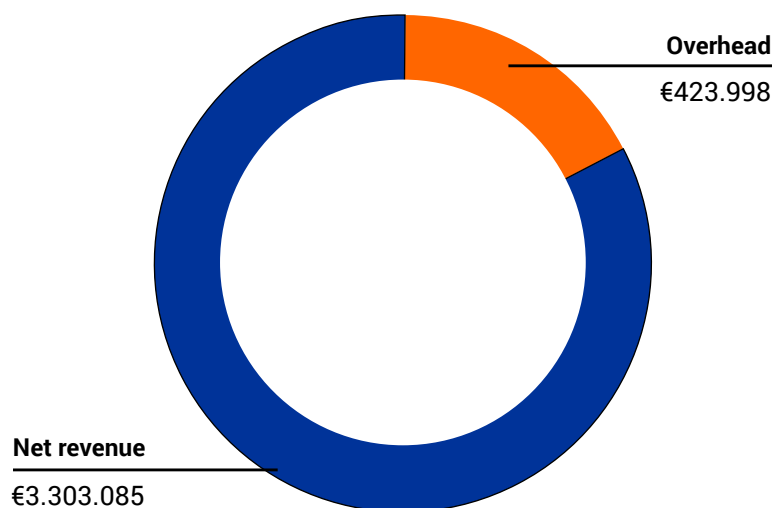
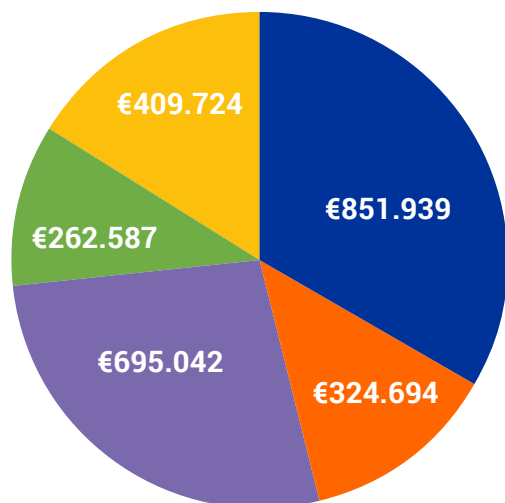
**Chairs** are an excellent means to financially support education, research and innovation and to develop a long-term relationship with companies. In 2023, VUB counted 24 active chairs among which one newly created: The Alex Agnew Chair x Yamina Krossa Fund for breast cancer research.

The VUB Foundation launched several fundraising initiatives last year, mainly focusing on fundraising for our funds by sending out 5 direct mailings. The direct mailings have a positive influence on the amount of donors that choose to donate to the VUB. Since 2020, the amount of donors increased with 24% (7900 donors in 2023). In 2023 two new funds were set up: the VUB Hugo Thienpont Fund for STEAM and the VUB Duchenne Fund. Three funds by name booked remarkable successes and provided essential financial aid for groundbreaking cancer research at the VUB: **VUB Yamina Krossa** Fund for breast cancer research which supports the fundamental research for a cancer vaccine of prof. dr. Damya Laoui (VUB-VIB) and her team, the **VUB-UZB Paul De Knop Fund** for immunotherapy which aims to support the clinical and fundamental immuno- therapy research of prof. dr. Bart Neyns and his team. And the Caroline Pauwels Relief Fund supports national and international students with an urgent (financial) need.



## THE NUMBERS

In 2023, the VUB Foundation had a total income of **€2.543.985,80**, in-kind sponsorships not included.



[WWW.VUBFOUNDATION.BE](http://WWW.VUBFOUNDATION.BE)

## THE FELLOWSHIP PROGRAMME

### CONNECTING ACADEMIA AND SOCIETY



In the past 11 years the Vrije Universiteit Brussel has built a network of **243 Fellows, of which 176 are Honorary Fellows**. These top-level business people, visionary decision makers, academics, journalists and socially relevant personalities are committed ambassadors of the VUB. The diverse Fellowship network elicits a structural collaboration with the corporate and societal sectors and strengthens the charisma of the VUB, its faculties and its departments.

**23 personalities were introduced as new Fellows in 2023.**

[WWW.VUB.BE/FELLOWSHIP](http://WWW.VUB.BE/FELLOWSHIP)

# VUB CROSSTALKS

## OPEN AND CONSTRUCTIVE KNOWLEDGE EXCHANGE

Crosstalks is a transdisciplinary and intersectoral platform for an **open and constructive exchange of knowledge** between academic and corporate researchers, entrepreneurs, artists, designers, policymakers and citizens. Since 2003 Crosstalks has been an original player at the crossroads of science, arts and culture.

Both inside and outside the VUB, Crosstalks is a **valued and much sought-after partner** for collaborations around **societal challenges**. Due to its **interdisciplinary approach**, Crosstalks is a particularly suitable platform for VUB researchers to meet stakeholders around themes such as sustainability, social inequality and placemaking. In the coming years, Crosstalks will focus even more on the aftermath of these meetings, with the aim of stimulating inter- and transdisciplinary research projects.

## PROJECTS 2023

### Fatima Mernissi Exhibition

Fatima Mernissi was a prominent figure in the development of feminism in the Muslim world and explored the intricate relationship between power, gender, and Islam. In tribute of this renowned Moroccan sociologist, Molenbeek-based artist Sadies Choua brought her ideas to life at the Town Hall of Molenbeek in 'The Salon of Fatima'. The exhibition coincided with the inauguration of the Fatima Mernissi Bridge, which connects Sint-Jans-Molenbeek with the City of Brussels, and is the result of a close collaboration between VUB and the Municipality of Molenbeek. Sadies Choua is a Belgian-Moroccan filmmaker, author, and mixed-media artist based in Molenbeek. Performances and lectures took place during the exhibition, exploring the themes of female solidarity, empowerment, and the profound connections between women. By building bridges between art and science, this exhibition and its side activities contribute to progress towards SDG 10: Reduced Inequalities, as well as SDG 17: Partnerships. The exhibition and side events attracted over 300 participants, including feminist organizations and secondary schools.

### A series of More-than-Human Encounters

This project is a collaboration between VUB Crosstalks and Kaaitheater and challenges prevailing Western perspectives that maintain a strict separation between humans and other life forms. After two seasons in Brussels, the program of the 2023 season was elaborated with partners from the arts and academia from Madrid, Trondheim and Amsterdam. The events provide a platform for artists, researchers, and thinkers to explore the complex relationships between humans and nature and promote alternative perspectives. The four events in 2023 supported the UN SDG's of sustainable cities and communities (SDG 11) and partnerships (SDG 17). Around 320 people attended the four live events (170 in Brussels, 150 in Amsterdam, Trondheim and Barcelona). The events were recorded and are available on Crosstalks' YouTube channel.

### Tidal Zone Experiences

This exhibition in collaboration with Pilar examined how seaweed communities interact with sea plants and how they inhabit and entangle with complex ecosystems. From April 20 to May 25, several discussions and performances took place, on deep-sea mining, on the fragile relationship between humans, technology and the sea, and on the sustainable use of algae in glazing processes. The exhibition attracted 500 visitors. 230 people attended the performances and talks. It aligns with the UN SDG's of Climate Action (SDG 13) and Life Below Water (SDG 14).

### Critical Thinking within Islam

In 2021, VUB Crosstalks and Moussem set up a lecture series on critical thinking within Islam. Islam has a history marked by dissent, heresy, and rebellion, leading to a rich culture of debate. This series explores this rich tradition and highlights the perspectives and legacy of Islamic philosophers like Al Farabi, Averroës, Avicenna, and others. In 2023, this series was given a place in the curriculum of first-year philosophy students at the VUB. It subscribes to the UN SDG's of quality education (SDG 4), reduced inequalities (SDG 10) and partnerships (SDG 17). For the lecture by Michiel Leezenberg on May 9, 2023, 60 students and 20 external visitors got the opportunity to discuss Al Farabi's *De Deugdzaam Stad* (Dutch edition published in 2022, translated by Michiel Leezenberg).

### Shake the Disease

A series of workshops and brainstorming sessions in collaboration with Pfizer, GSK, Janssen Pharmaceuticals and AstraZeneca. The workshops in 2023 focused on mental health and linked scientific research, case studies and arts & design projects to generate new insights. This project supports the UN SDG of promoting good health and wellbeing (SDG3). On average, the workshops had between 40 and 70 participants.



## HIGHLIGHTS 2023



### Travelling [fractured] Sources

Lecture and screening with Ariella Aisha Azoulay

The two-day program Travelling [fractured] Sources aligned with Ariella Azoulay's positionality, thinking and praxis as a self-identifying Jewish-Algerian-Palestinian who is actively unlearning the imperial history of her father as an Israeli settler. While guiding us through imperial archives, Azoulay unfolded narratives of extraction and displacement that affected Jewish communities in North Africa and West Asia, leading them into a settler colonial power that invaded, unsettled, and colonized Palestinian territory.

**Date:** November 29 and 30  
@ Beursschouwburg & VUB

#### With:

- Ariella Aisha Azoulay (Professor of Modern Culture and Media at Brown University)
- Hari Prasad Sacré, Arshia Ali Azmat & Hoda Siahtiri

This project is the result of a collaboration between Kaaitheater, Beursschouwburg, VUB Crosstalks and Brussels Research Centre on Innovation in Learning & Diversity, with the support of VUB - Global Minds program.



### Learning from the Ocean as a Space

Tidal Zone Experiences

In this conversation about territory and migration 'Learning from the Ocean as a Space', inspiration is drawn from the ocean and its 'choreographic conditions'. Like flying is a form of thinking for birds, the floating movements in oceanic space are important for seaweeds and algae. This discussion centered around the question of how to include an animist perspective in the topic of migration in a European legal context.

**Date:** April 27  
@ Pilar

#### With:

- Artist Filip Van Dingenen (Platform for Algae Diplomacy)
- Marine biologist Filip Huyghe (VUB)
- Entrepreneur Joost Wouters (The Seaweed Company)
- Moderated by Heidi Ballet (DE SINGEL)

Various national and international artists and researchers from diverse disciplines contributed to the project of Tidal Zone Experiences. This aligns with the objectives of both the Casterman-Hamers Chair History and Philosophy of Sciences and VUB's broad objectives, such as pursuing interdisciplinary research, societal impact, and promoting knowledge development and innovation.



### Neurodiversity as norm, not as labe

Shake the Disease

Our society is largely geared towards a certain ideal of how people should think and function. Recognizing neurodiversity means that there is no 'normal' or 'correct' way of thinking or being, but that neurological conditions such as autism, ADHD, and dyslexia should be seen as natural variations of the human brain, rather than disorders to be corrected.

During this event, various speakers shared their personal, practical, and academic experiences. Kirsten Catthoor advocated against the stigma around neurodiversity. Afterwards, Rachel Elliott discussed therapeutic interventions and their effects on mental health. Five 'experts by experience' shared their personal stories with the audience.

**Date:** April 19  
@ Museum Dr. Guislain (Ghent)

#### With:

- Kirsten Catthoor (psychiatrist at Stuivenberg Psychiatric Hospital & chairman of the Flemish Association for Psychiatry)
- Rachel Elliott (University of Manchester)
- Testimonies of Leonie Delay, Evangeline Agape, Els Van Beneden, Inke Gieghase Ann Ceurvels & Tania Poppe

With the Shake the Disease project, Crosstalks responds to relevant and timely topics, such as mental health or shorter work weeks. Through these events, Crosstalks facilitates meaningful dialogue between researchers and individuals with lived experiences, promoting a nuanced understanding of these complex topics and paving the way for informed, inclusive solutions.

# RESEARCH PARK & INCUBATORS 2023

## RESEARCHPARK ZELLIK

- near UZ Brussel
- further development of collaboration with companies

[www.researchparkzellik.be](http://www.researchparkzellik.be)



## VUB -VIB BV BIO INCUBATOR BRUSSELS

- on VUB main campus
- with partner VIB (Vlaams Instituut voor Biotechnologie)
- focus on biotech
- in 2022 launch renovation of Willy Van der Meeren units
- operational in 2024

[www.icabrussel.be](http://www.icabrussel.be)

## VUB BUSINESS & TECHNOLOGY INCUBATOR - ICAB NV

- near VUB main campus
- focus on technology & engineering
- high occupancy rate

[www.icabrussel.be](http://www.icabrussel.be)

## GREEN ENERGY PARK

- created in 2019
- located at Researchpark Zellik
- large-scale living lab
- 2021: launch Smart Village Lab
- Partner in Nexus:
  - the first "sustainable by design" CO2-neutral data centre in Belgium
  - located at Researchpark Zellik
  - will be operational in 2024

<https://www.greenenergypark.be/>



## INCUBATOR FOR YOUNG ENTREPRENEURS - STARTLAB.BRUSSELS

- at Incubator Usquare near VUB main campus
- initialised by VUB and ULB

[startlab.brussels](http://startlab.brussels)



# **WANT TO REACH OUT TO US?**

## **OUR TEAM IS READY TO ASSIST YOU!**

You can find all our team members and their contact information on our Staff Page:

**[www.vubtechtransfer.be/about-us/staff](http://www.vubtechtransfer.be/about-us/staff)**

Alternatively, you can send a general email to  
**[techtransfer@vub.be](mailto:techtransfer@vub.be)**

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