

CURRICULUM VITAE



Elise Elsacker

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STUDIES

- Jan 2017 – April 2021 **Doctor of Engineering Sciences** at Vrije Universiteit Brussel, Belgium
(Highest honours with felicitations from the jury)
- 2010 - 2012 **Master of Sciences in Architecture** at KU Leuven, Belgium (degree with
distinction)
- 2007 - 2010 **Bachelor of Architecture** at KU Leuven, Belgium (degree of satisfaction)

PROFESSIONAL ACADEMIC EXPERIENCE

- Oct 2023 - present **Assistant Research Professor (10% ZAP)** at the Department of Bio-engineering Sciences, Microbiology, Vrije Universiteit Brussel (Brussels, BE).
With this mandate I will initiate the development of an innovative multidisciplinary and international research team at VUB focused on the topic of fungal engineered living materials. I aim to actively contribute to advancing knowledge on biologically grown materials, reconnecting human designs with natural and sustainable strategies.
- Jan 2023 - present **Postdoctoral Researcher Fellow** at the Department of Bio-engineering Sciences, Microbiology (Prof. Eveline Peeters) and at the Department of Physical Chemistry and Polymer Science, Materials and Chemistry (Prof. Niko Van den Brande), Vrije Universiteit Brussel (Brussels, BE) and funded by the by the Research Foundation Flanders – FWO with a junior postdoctoral fellowship. My focus will be to study the regeneration behaviour of the fungus leading to the self-healing of the material upon damage. All these new insights will inform designs of novel reactive self-sustaining fabrics. I'm also involved in the FUNGATERIA project that has received funding from the European Union's Horizon-EIC-2021-Pathfinder Challenges.

- June 2021 – Dec 2022 **Postdoctoral Research Associate** at the Hub for Biotechnology in the Built Environment, Newcastle University (Newcastle-upon-Tyne, UK), lead by Prof. Martyn Dade-Robertson. In this role, I was pioneering the development of materials in which fungal organisms maintain viability during their lifespan. I was also involved in the development and fabrication of the Bioknit pavilion. Research that focuses on the biocompatibility of knitted fabrics as a scaffold for growth, highlighting the potential to create complex forms using textile fibres.
- Jan 2021 - March 2021 **Scientific research assistant** at the Department of Bio-engineering Sciences, Microbiology, Vrije Universiteit Brussel (Brussels, BE). I worked on a feasibility study for Citribel, a Belgian citric acid producer. We investigated the initial potential to create a leather-like product from their mycelium waste stream.
- Jan 2017 - Dec 2020 **PhD researcher** at the Department of Architectural Engineering, Vrije Universiteit Brussel (Brussels, BE) funded by the Research Foundation Flanders (FWO-SB) under supervision of Prof. Lars De Laet and Prof. Eveline Peeters. Title of my PhD dissertation: **MYCELIUM MATTERS: An interdisciplinary exploration of the fabrication and properties of mycelium-based materials**. This is one of the first works to characterize all principal factors affecting the biological and material properties of mycelium composites. I also broadened the potential of biological architectural applications with novel robotic tools such as 3D-printing and robotic wire-cutting.
- Nov 2019 - March 2020 **Visiting researcher** at CITA (Centre for IT and Architecture, Copenhagen, DK). Made possible with a FWO long term Travel Grant. My fascination with digital materiality led me to CITA, where my research focused on how living matter can be designed by altering its spatial and environmental configurations, influencing specific characteristics and material behaviour. This stay established a strong academic connection with Prof. Phil Ayres, resulting in the successful project proposal "FUNGATERIA," funded by the European Innovation Council, HORIZON-EIC-2021.
- July 2016 - Oct 2016 **Scientific research assistant** (part-time, 60%) at Vrije Universiteit Brussel (Brussels, BE).

PROFESSIONAL NON-ACADEMIC EXPERIENCE

- March 2018 – June 2023 **Co-founder and member of the Board of Directors of Glimps.bio** (Gent, BE). Glimps.bio is leading innovation agency in bio, creativity, and collaboration, which focusses on creating value from waste by finding circular and bio-design solutions for biotech companies. The company is composed of two full-time employees, freelancers, four directors, and 36 shareholders.

- Oct 2014 - Dec 2016 **Project architect at Ney & Partners Civil Engineers** (Brussels, BE). I was mainly in charge of the conceptual and architectural design, 3D modelling and visualisations of bridges in Belgium and Europe. I was project architect for six completed footbridges in the Singelpark of Leiden (NL), in the conception team of the Tintagel Bridge (UK), and architect of a public transportation hub at the Namur Station (BE).
- 2014 - 2016 **Independent architect** registered at the Order of Architects (Vlaamse raad, BE).
- Feb 2014 - Aug 2014 **Intern Architect** at L.A.V.A. (Berlin, DE). I worked on the conception of two hotel towers in Hangzhou (China), a youth hostel in Bayreuth (Germany), an architecture school in Ningbo (China), a penthouse in Berlin, and expo at the Venice Biennale of Architecture.
- May 2012 - Jan 2014 **Real estate manager** for Magma Nova SPRL (Brussels, BE). After a serious traffic accident of my father, I took over the management of his real estate activity during his hospitalization. This unforeseen challenge taught me to be pragmatic, a problem solver, coordinate the staff, manage all kind of tasks, communicate with renters, etc... I combined it with finishing my Master of Science in Architecture.

VOLUNTEER WORK FOR NON-PROFIT ORGANIZATIONS

- Aug 2017 - 2018 **Workshop volunteer** at Ekoli vzw (Gent, BE). Ekoli makes biosciences accessible for every child, with a focus on underprivileged groups, who often face neglect in education.
- Nov 2015 – 2018 **Member/biohacker/workshop volunteer** at ReaGent (Gent, BE), a public biolab making biosciences more accessible. In our openly accessible lab, we provided infrastructure, promoted understanding and stimulated creativity. Openness, transparency, and inclusion were ingrained in our core. ReaGent was the first of its kind in Flanders and a pioneer in Belgium & Europe.
- Aug 2015 – Feb 2016 **Member** of Hackistan. Literally land (stan) for smart solutions (hack), Hackistan brings a community of changemakers together to connect around a network of infrastructures. Our mission is to provide support, visibility and prototyping facilities to disruptive innovation projects with high societal and environmental impact.
- Sep 2015 – Apr 2016 **Community Development Volunteer** at Future of Waste. Our mission was to solve challenges for social entrepreneurs dedicated to waste issues thanks to the expertise and creativity of our community.
- Sep 2015 – Apr 2016 **Community Volunteer** at MakeSense, a community of young change makers helping social entrepreneurs.

RESEARCH INTEREST

My work lays the groundwork for the scientific state of the art of mycelium materials. It is a leap forward for developing biofabrication strategies with living organisms as construction, interior or textile materials. I try to actively contribute to the understanding of biologically grown materials and thereby reconnect man-made design to natural and sustainable strategies.

Materials science and engineering – Engineered Living Materials - Functionalisation of materials - Bioprocessing, bioproduction and bioproducts - Mycology - Biomaterials, specifically mycelium materials and bacterial cellulose - Biological living materials - Self-healing and self-sustaining capacity - Biomineralization - Biomanufacturing

JOURNAL PUBLICATIONS

	Citations	IF
1. Elsacker, Elise ; Zhang, Meng ; Dade-Robertson, Martyn. “Fungal Engineered Living Materials : The Viability of Pure Mycelium Materials with Self-Healing Functionalities”. <i>Advanced Functional Materials</i> . 2023 ; Vol. 33, No. 29.	2	19
2. Elsacker, Elise ; Vandeloock, Simon ; Peeters, Eveline. “Recent technological innovations in mycelium materials as leather substitutes : a patent review”. <i>Frontiers in Bioengineering and Biotechnology</i> . 2023 ; Vol. 11.	2	5.7
3. Kaiser, Romy ; Bridgens, Ben ; Elsacker, Elise ; Scott, Jane. “BioKnit : development of mycelium paste for use with permanent textile formwork.” <i>Frontiers in Bioengineering and Biotechnology</i> . 2023 ; Vol. 11.	0	5.7
4. Elise Elsacker , Eveline Peeters, and Lars De Laet. "Functional Grading of Mycelium Materials with Inorganic Particles: The Effect of Nanoclay on the Biological, Chemical and Mechanical Properties." <i>Biomimetics</i> , 2022, 7(2), 57	9	4.5
5. Elise Elsacker , Eveline Peeters, and Lars De Laet. "Large-scale robotic extrusion-based additive manufacturing with living mycelium composites." <i>Sustainable Futures</i> , 2022, 4, 100085	12	5.5
6. Vandeloock, Simon, Elise Elsacker , Aurélie Van Wylick, Lars De Laet, and Eveline Peeters. "Current State and Future Prospects of Pure Mycelium Materials." <i>Fungal Biology and Biotechnology</i> . 8.1: Fungal Biology and Biotechnology. , 2021, Vol.8(1).	37	5.71
7. Elise Elsacker , Simon Vandeloock, Bastien Damsin, Aurélie Van Wylick, Eveline Peeters, and Lars De Laet. "Mechanical Characteristics of Bacterial Cellulose-reinforced Mycelium Composite Materials." <i>Fungal Biology and Biotechnology</i> .8.1 (2021): Fungal Biology and Biotechnology. , 2021, Vol.8(1).	23	5.71
8. Aurélie Van Wylick, Antonielle Vieira Monclaro, Elise Elsacker , Simon Vandeloock, Hubert Rahier, Lars De Laet, David Cannella, and Eveline	17	5.71

- Peeters. "A Review on the Potential of Filamentous Fungi for Microbial Self-healing of Concrete." *Fungal Biology and Biotechnology*. 8.1 (2021): Fungal Biology and Biotechnology. , 2021, Vol.8(1).
9. **Elise Elsacker**, Asbjørn Søndergaard, Aurélie Van Wylick, Eveline Peeters, and Lars De Laet. "Growing Living and Multifunctional Mycelium Composites for Large-scale Formwork Applications Using Robotic Abrasive Wire-cutting." *Construction & Building Materials* 283 (2021): 122732. 39 7.4
 10. **Elise Elsacker**, Simon Vandeloock, Aurélie Van Wylick, Joske Ruytinx, Lars De Laet, and Eveline Peeters. "A Comprehensive Framework for the Production of Mycelium-based Lignocellulosic Composites." *The Science of the Total Environment*. 725 (2020): 138431. 94 9.8
 11. **Elise Elsacker**, Vandeloock, Simon, Brancart, Joost, Peeters, Eveline, De Laet, Lars. "Mechanical, Physical and Chemical Characterisation of Mycelium-based Composites with Different Types of Lignocellulosic Substrates." *PLoS One*. 14.7 (2019): E0213954. 125 3.75

Citations data from Scopus in Dec 2023.

INTERNATIONAL CONFERENCE PAPERS AND PRESENTATIONS

- Oct 2022 Agraviador, A., Scott, J., Kaiser, R., **Elsacker, E.**, Hoenerloh, A., Topcu, A., & Bridgens, B.. "BioKnit: Computation and material investigation in the design of biohybrid textiles towards architectural integration". In Proceedings of the 42nd Annual Conference of the Association for Computer Aided Design in Architecture ACADIA.
- July 2022 **E. Elsacker**, L. Van Rompaey, E. Peeters and L. De Laet, "Fungal bioremediation of plastic waste into building materials", 5th International Conference on Structures and Architecture (peer-reviewed, conference paper)
- July 2022 Scott, R. Kaiser, D. Ozkan, A. Hoenerloh, A. Agraviador, **E. Elsacker** & B. Bridgens, "Knitted Cultivation: Textiling a Multi-Kingdom Bio Architecture", 5th International Conference on Structures and Architecture (peer-reviewed, conference paper)
- June 2022 **E. Elsacker**, M. Zhang and M. Dade-Robertson, "Self-healing of fungal living leather-like materials", Third International Conference on Engineered Living Materials, Saarbrücken, Germany (abstract and presentation)
- Feb 2022 Scott, J., Ozkan, D., Hoenerloh, A., Kaiser, R., Agraviador, A., Bridgens, B., Birch, E. & **Elsacker, E.**, "Bioknit building: strategies for living textile architectures", International Conference Construction, Energy, Environment & Sustainability. CEES
- 2022 Van Wylick, A., **Elsacker, E.**, Yap, L., Peeters, E., De Laet, L. "Mycelium composites and their biodegradability: an exploration on the disintegration of mycelium-based materials in soil". 4th International Conference on Bio-Based Building Materials (conference paper)
- 2019 **Elsacker, E.**, De Laet, L., Peeters, E.. "Mycelium-based materials at the dawn of the Anthropocene", in: Structures and Architecture - Bridging the Gap and Crossing Borders:

Proceedings of the 4th International Conference on Structures and Architecture. Taylor & Francis, pp. 1083–1090. (peer-reviewed, conference paper)

- 2019 **Elsacker, E.** Speaker at IASS symposium 2019: Form and Force, “Transdisciplinary knowledge sharing platform for biological materials for the building industry,” Barcelona, Spain (abstract)
- 2018 **Elsacker, E.** Speaker at the First International WoodFungi Conference, “New applications of mycelium-based materials,” Gent, Belgium

FUNDING PROPOSALS

- 2023 Co-PI on “**MycoMatters: developing next-generation sustainable mycelium-based materials**” at VUB. SBO/E Strategic Basic Research-Economic, Fonds Wetenschappelijk Onderzoek – Vlaanderen. PI: Eveline Peeters, Co-PI’s: Lars De Laet, Niko Van den Brande, Co-applicants: Marjan De Mey, Els Du Bois, Katrien Bernaerts. submitted
- 2023 Co-supervisor on MSCA-COFUND-2020, IMPACT – CALL 2 at VUB, fellowship for Shafiei Alavijeh Razieh. Supervisor: Eveline Peeters. successful
- 2022 Participation in grant writing of “**Enzymatic upcycling of textile waste into biodegradable mycelium leather**”, at Newcastle University. Funded by BBSRC. successful
PI: Paul James. Co-PI’s Jane Scott, Gary Black, and Meng Zhang
- 2022 Participation in grant writing of “**Mycelium materials**” at Vrije Universiteit Brussel. Call bioeconomy, Fonds Wetenschappelijk Onderzoek – Vlaanderen. PI: Eveline Peeters unsuccessful
- 2021 Participation in grant writing of “**MycoMatters: sustainable and cost-efficient production of a new generation of mycelium materials**” at Vrije Universiteit Brussel. SBO/E Strategic Basic Research-Economic, Fonds Wetenschappelijk Onderzoek – Vlaanderen. PI: Eveline Peeters, Co-PI’s: Lars De Laet, Niko Van den Brande, Marjan De Mey, Brecht De Paepe, Els Du Bois unsuccessful
- 2021 Participation in grant writing of “**FUNGATERIA: Enlisting synthetic fungal-bacterial consortia to produce multicellular engineered living materials (ELMs) with computational capability**” funded by the European Innovation Council, HORIZON-EIC-2021. Total Budget: 3 999 263€. VUB Allocated Budget: 618 000€ PI: Eveline Peeters. successful
- 2021 Participation in grant writing of “**Fungal engineered living materials with programmable functionalities as a next-generation class of sustainable biomaterials**”. Call “EOS – Excellence of science. PIs: DE MEY Marjan, OSTUZZI Francesca, DE PAEPE Brecht, VAN DEN BRANDE Niko, PEETERS Eveline, FICKERS Patrick, CANNELLA David, HENS Kristien unsuccessful
- 2021 FWO Junior postdoctoral fellowship, “**Design of self-healing living mycelium materials at the intersection between biology and materials science**”, at Vrije Universiteit Brussel, Belgium. This fellowship was postponed to Jan 2023 due to successful

my position at Newcastle University (three-year salary and € 10 000/year working budget).

- 2019 **FWO Travel Grant for a long stay abroad** at CITA, Centre for Information Technology and Architecture, Royal Academy of Fine Arts, School of Architecture, Design and Conservation. Finished (€ 10 032) successful
- 2019 Participation in grant writing of **“Fabrication of biologically grown construction materials using filamentous fungi”**. FWO project. PI’s: Eveline Peeters and Lars De Laet. unsuccessful
- 2018 Participation in grant writing of **“MycoMatters – Growing mycelium-based biomaterials from local organic waste for urban infrastructure”**, Anticipate – prospective researcher, Innoviris, Brussels. PI’s: Eveline Peeters and Lars De Laet. (335 400€) unsuccessful
- 2017 FWO-Strategic Basic research PhD fellowship, **“Living material fabrication for sustainable lightweight structures.”** Finished, (four-year salary and € 4700/year working budget) successful

AWARDS AND HONORS

- 2022 **BiR&D Cross-Disciplinary PhD Thesis Awards 2022**, in the Science & Technology category. BiR&D is an association of international industrial companies with major R&D operations in Belgium. Under the patronage of the Research Foundation - Flanders (FWO) and Fonds de la Recherche Scientifique (FNRS), it presents four awards each year to doctoral researchers whose work have a strong multidisciplinary character and high potential for industrialisation (€ 5000).
- 2019 **Circular Construction Challenge**, by the Danish philanthropic association Realdania, with Søren Jensen and a strong team of academic and industrial partners (€130 000). Award to support an innovation and co-creation process in developing new biomaterials for the building industry.
- 2018 **Women Award In Technology & Science** by Innoviris (Second prize, golden design object). Award to strengthen the place of women in scientific research and innovation and, in particular, arouse interest in science and technology among young girls from Brussels.
- 2017 **Personal grant** of the Belgian foundation Vocatio (€10000). Award for passionate young talent who are actively contributing to the development of our society since their childhood.
- 2017 **Invited by Their Majesties The King and The Queen of the Belgians at the Royal Palace** for a concert to celebrate young entrepreneurs and innovators who create the foundations of our society.
- 2017 **Selected by The Shift and Act4Change** as one of the 100 most promising sustainable young change-makers in Belgium.

OTHER SCIENTIFIC OUTPUT AND IMPACT

- Events, lectures and exhibitions**
- (2023) Exhibition "Regeneration" in the **Belgian pavilion at the 18th International Architecture Exhibition - La Biennale di Venezia - Venice, Italy**
 - (2023) Invited speaker "Fungi and the Built Environment" at **Biofrontiers 2023: Potential of Fungal-based Materials in Architecture - ETH Zurich, Switzerland**
 - (2023) Speaker "Fungal Engineered Living Materials" at **Summer School: Biotech in Brussels: where biology meets technology, VUB, Brussel**
 - (2022) Featured speaker at **Sustainable Structural Design webinar: towards living mycelium materials at TU Delft, NL**
 - (2022) Exhibition at **Biofabricate** of self-healing mycelium leather-like materials, in New York City, USA
 - (2022) Exhibition at **The OME at Newcastle University** of The BioKnit Prototype, UK (Research Team: Jane Scott, Romy Kaiser, Elise Elsacker, Armand Agraviador, Aileen Hoenerloh, Ahmet Topcu, Dilan Ozkan, Ben Bridgens)
 - (2022) Featured speaker at **Fungal Biomaterials and Biofabrication Workshop** at Penn State University, USA
 - (2022) Invited speaker at **Research Strategies and Methods for Design Driven Material Studies**, PhD course seminar of Phil Ayres and Isak Worre Foged, Royal Danish Academy, DK
 - (2021) Invited speaker at **Fungal Mycelium Materials Mini Meeting** at RISE Research Institutes of Sweden and Ben Gurion University of the Negev, SE
 - (2021) Featured speaker at **Mycology for Architecture "Big scale applications of mycelium composites"** lecture series
 - (2021) Invited speaker at **Engineered Living Materials conference "Design and fabrication of Living Mycelium Materials"**, DE
 - (2021) Invited speaker at **CAPTURE resources Science Talk "Mycelium Matters: Unravelling the properties of mycelium-based materials"**, BE
 - (2019) Invited speaker at **leve(n)dekunst: Organised by Reflectiegroep Kunst, Wetenschap en Technologie – "Networks"**, Brussels, BE
 - (2019) Invited speaker at **Biodesign night, "Living materials fabrication"**, Rotterdam, NL
 - (2018) Invited speaker at **Robotic Fabrication Masterclass and Symposium, Fabricating Futures, "Living Material Fabrication for Sustainable Lightweight Architecture,"** Gent, BE
 - (2018) Invited speaker at **X-festival, "Van afval naar groei,"** Genk, BE
 - (2018) Exhibition **Fungal Futures 03, "What are the materials of the future?,"** Gent, BE
 - (2018) Interview on **Canvas, "Hoe kan biologie ons leven verbeteren?,"** BE
 - (2017) Invited speaker at a **study visit of foreign guests of the "Flanders Inspires International Visitors Program,"** Brussels, BE
 - (2017) Invited speaker at **European Space Agency, ESA, "Mycelium materials in space,"** Noordwijk, NL
- Consultancy**
- Consultant for Søren Jensen (DK) - "From waste to biomaterial", Copenhagen (4/2/19 → 31/8/19)
 - Consultant for PermaFungi (BE) - "Fabrication of mycelium-based objects", Brussels (1/1/17 → 30/6/18)
 - Consultant for Citribel (BE) (1/1/2021 → 30/03/2021)

Consultant for ProNatura (BE)

Workshops Organizer of **public lecture, bootcamp and speaker at "How can robots shape living materials"**, Gent (27/03/18), BE

Organizer of **"Mycomaterial training for professionals"** (30/08/18)

Teacher at **Kinderuniversiteit** (8/05/18) and **Dag van de Wetenschap** (yearly), VUB

Teacher at **Summer School "Biotech in Brussels"**, VUB (6/08/18)

Media

(Oct 2023) Handtas gemaakt van paddenstoelen: VUB maakt eerste duurzame handtas van myceliumleer. <https://www.vrt.be/vrtnws/nl/2023/10/09/paddenstoelenleer/>

(Oct 2023) Trekken we straks een jas van schimmels aan? <https://www.eoswetenschap.eu/technologie/trekken-we-straks-een-jas-van-schimmels-aan>

(Oct 2023) Handtas van de toekomst: VUB-team maakt duurzame tas van wortelstructuur van paddenstoelen. <https://weekend.knack.be/lifestyle/mode/handtas-van-de-toekomst-vub-team-maakt-duurzame-tas-van-wortelstructuur-van-paddenstoelen/>

(Oct 2023) Een handtas van paddenstoelen <https://www.wablieft.be/nl/krant/leuk/een-handtas-van-paddenstoelen>

(Oct 2023) VUB maakt eerste duurzame handtas uit wortelstructuur van paddenstoelen <https://ecotips.org/vub-maakt-eerste-duurzame-handtas-uit-wortelstructuur-van-paddenstoelen/>

(May 2023) Self-healing mycelium leather shown to be possible. <https://www.materialstoday.com/biomaterials/news/selfhealing-mycelium-leather-shown-to-be-possible/>

(April 2023) Van paddenstoel tot luxehandtas: worden schimmels het nieuwe leer? https://www.nieuwsblad.be/cnt/dmf20230414_93130503

(April 2023) Podcast "Hoe maak je een handtas van schimmels?" <https://www.universiteitvanvlaanderen.be/podcast/hoemaakjeeenhandtasvanschimmels>

(April 2023) Vegan leer dat zichzelf herstelt. <https://www.mvovlaanderen.be/inspiratie/vegan-leer-dat-zichzelf-herstelt>

(April 2023) Mycelium: Leather made of fungi can self-repair <https://www.bbc.co.uk/newsround/65392399>

(April 2023) A vegan leather made of dormant fungi can repair itself. <https://www.sciencenews.org/article/vegan-leather-fungi-repair-mycelium>

(April 2023) Using mycelium to create a self-healing wearable leather-like material. <https://phys.org/news/2023-04-mycelium-self-healing-wearable-leather-like-material.html>

(April 2023) Scientists Create Self-Healing Wearable Mycelium Leather. <https://www.ecowatch.com/mycelium-leather-self-healing-science.html>

(April 2023) Fungus Fashion: Self-Healing Vegan Leather Could Revolutionize Sustainability. <https://www.onegreenplanet.org/environment/fungus-fashion-self-healing-vegan-leather/>

(March 2023) De schoen die zichzelf repareert. <https://www.demorgen.be/tech-wetenschap/de-schoen-die-zichzelf-repareert-schimmels-en-bacterien-maken-het-mogelijk~b2b5ef1a/>

(Oct 2022) VUB voert onderzoek naar tassen en schoenen gemaakt uit levende schimmels. <https://www.bruzz.be/wetenschap/vub-voert-onderzoek-naar-tassen-en-schoenen-gemaakt-uit-levende-schimmels-2022-10-11>

(Oct 2022) VUB en UGent nemen deel aan internationaal onderzoek naar schimmelschoenen. <https://www.tijd.be/politiek-economie/belgie/algemeen/vub-en-ugent-nemen-deel-aan-internationaal-onderzoek-naar-schimmelschoenen/10419560.html>

(Sept 2022) Hoe wordt diervrij leer gemaakt? https://www.standaard.be/cnt/dmf20220929_97405855

(June 2022) Architecte maakt leer van mycelium: 'Ik droom van schoenen die zichzelf herstellen'. <https://www.knack.be/nieuws/milieu/klimaat/klimaatoptimisten/architecte-maakt-leer-van-mycelium-ik-droom-van-schoenen-die-zichzelf-herstellen/>

(Oct 2021) Bouwen met schimmels. <https://www.knack.be/magazine/bouwen-met-schimmels/>

(Sept 2021) Fungi roots: the building blocks of a circular economy? [https://biovox.eu/fungi-roots-the-building-blocks-of-a-circular-economy/#:~:text=Fungi%20for%20a%20circular%20economy,such%20as%20steel%20and%20bricks\).](https://biovox.eu/fungi-roots-the-building-blocks-of-a-circular-economy/#:~:text=Fungi%20for%20a%20circular%20economy,such%20as%20steel%20and%20bricks).)

(May 2021) Mycelium materials <https://radio1.be/adidas-brengt-binnenkort-nieuw-soort-schoen-uit-schimmelleer-op-de-markt>

(May 2021) Schimmelschoen toont potentieel van biomateriaal mycelium. <https://www.tijd.be/ondernemen/algemeen/schimmelschoen-toont-potentieel-van-biomateriaal-mycelium/10303767.html>

(May 2021) Le marché du matériau bio industriel appuie sur le champignon <https://www.lecho.be/innover/general/le-marche-du-matériau-bio-industriel-appuie-sur-le-champignon/10304845.html>

(April 2021) VUB-onderzoekster bouwt met schimmels <https://engineeringnet.be/nl/nieuws/item/18175/vub-onderzoekster-bouwt-met-schimmels>

(May 2019) Afval reduceren én nieuwe materialen maken dankzij schimmels <https://www.mo.be/interview/afvalreductie-dankzij-schimmels>

(April 2019) Mode, design et beauté: le champignon est le nouveau 'cuir'. <https://www.lecho.be/sabato/design/mode-design-et-beaute-le-champignon-est-le-nouveau-cuir/10053190.html>

(March 2018) Doeners kunnen de wereld veranderen. <https://www.bruzz.be/samenleving/enfant-terrible-elise-elsacker-onderzoeker-en-ondernemer-2018-03-24>

(Nov 2017) On growing fully biodegradable organic materials <http://thewordmagazine.com/neighbourhood-life/on-growing-fully-biodegradable-organic-materials-out-of-food-waste-by-elise-elsacker/>

(May 2017) Zwammen: het bouw materiaal van de toekomst? <https://www.vibe.be/wp-content/uploads/2017/05/Zwammen-het-bouw-materiaal-van-de-toekomst.pdf>

STUDENTS AND PHD SUPERVISION

I co-supervised master and PhD students, in architectural engineering, civic engineering, industrial engineering (electro-mechanics), chemistry and bio-engineering, textile design.

PhD students: **The living textile interface: textile hosting - Romy Kaiser.** Supervisor: Jane Scott, Prof. Co-supervisors: Martyn Dade-Robertson, Elise Elsacker. Hub for Biotechnology in the Built Environment, Newcastle University (2020 – present).

Integral advancement of the production of mycelium materials: from synthetic biology to developing a manufacturing platform - Jara Saluena Martin. Supervisor: Prof. Eveline Peeters. Co-supervisors: Elise Elsacker. Department of Bio-engineering Sciences, VUB (2022 – present).

Master students: **Property grading of biomaterials: Fine tuning the mechanical properties of mycelium-based composites** - Dana Raslan. Master of Architecture at Newcastle University. Dr Martyn Dade-Robertson (Supervisor) (2021-2022)

Exploring additive manufacturing of mycelium-base composites - Kalai, N. Master of Science in Architectural Engineering at Vrije Universiteit Brussel. De Laet, L. (Supervisor) (2019-2020)

Mycelium composites: An exploration of the disintegration in soil - Yap, L. L. Master of Science in Architectural Engineering at Vrije Universiteit Brussel. De Laet, L. (Supervisor) (2019-2020)

Design by Degradation, Degradation by Design: Fungal bioremediation of plastic waste in the new constrain paradigm - Van Rompaey, L. Master of Science in Architectural Engineering at Vrije Universiteit Brussel. De Laet, L. (Supervisor) (2019-2020)

Robotic fabrication of functionally graded biomaterials: Experimental research on the large scale fabrication of mycelium composites - Nieberding, I. Master of Science in Architectural Engineering at Vrije Universiteit Brussel. De Laet, L. (Supervisor) (2018-2019)

Bacterial cellulose as a new material for tensile architecture membranes - Damsin, B. Master of Science in Architectural Engineering at Vrije Universiteit Brussel. De Laet, L. (Supervisor) (2018-2019)

Understanding the environmental life cycle impact of mycelium composites - Seghers, N. Master of Science in Architectural Engineering at Vrije Universiteit Brussel. De Laet, L. (Supervisor), Galle, W. (Co-Supervisor) (2018-2019)

Incorporation of citric waste streams in mycelium-based composite material production and its effect on ligninolytic enzyme expression in white-rot fungi - Bassleer, B. Master of Science in Biomolecular Science at Vrije Universiteit Brussel. Peeters, E. (Supervisor) (2018-2019)

Characterization of multiple *Trametes versicolor* strains for mycelium-based biomaterial applications - Vandelook, S. Master of Science in Biology: Molecular and Cellular Life Sciences at Vrije Universiteit Brussel. Peeters, E. (Supervisor) (2017-2018)

Experimental research on the mechanical properties of mycelium composites - Van Wylick, A. Master of Science in Architectural Engineering at Vrije Universiteit Brussel. De Laet, L. (Supervisor), Tysmans, T. (Co-Supervisor) (2017-2018)

Hygrothermal and elastic properties of mycelium composites constituted of natural fibers, flax, hemp and straw - Pantoja Arboleda, P. V. (2017-2018). Master of Science in Civil Engineering at Vrije Universiteit Brussel. De Laet, L. (Supervisor) (2017-2018)

Development of extrusion heads and methods for the KUKA robot - Nizeyimana M. and Riga F. Master of Industrial sciences at Vrije Universiteit Brussel. Standaert, L. (Supervisor) (2017-2018)

Design and realisation of a multi-printhead for robotic additive manufacturing of biodegradable mycelium composite materials - Steenhouwer, B. and Van Den Cruyce, D. Master of Industrial Engineering at Vrije Universiteit Brussel. De Laet, L. (Supervisor), De Troyer, T. (Supervisor), Standaert, L. (Co-Supervisor) (2016-2017)

TEACHING ASSISTANT

I've been a teaching assistant in the Bachelor program at the Department of Architectural Engineering at Vrije Universiteit Brussel from 2017-2020.

- 12 ECTS credits- Design studio: people and adaptability
- 4 ECTS - Perspective drawing and representation techniques
- 4 ECTS - Construction technique: solid construction
- 4 ECTS - Computer aided design