

Harnessing microorganism-based materials for a sustainable future

Interview with Patrycja Kucharczyk and Adam Aleksander Korczak, co-founders of Treeless Pack. Patrycja was a participant in the feminio mentoring program.

What important environmental and societal problems does Treeless Pack tackle?

Treeless Pack is addressing a critical environmental and societal challenge: the sustainability of cellulose production. Traditionally, cellulose is derived from wood fibers, a process that contributes to deforestation and is environmentally taxing due to its energy-intensive and polluting nature. However, we offer an alternative approach. By harnessing microorganism-based natural fibers through the ingenious utilization of organic waste, we aim to alleviate the pressure on forests and promote resource-efficient solutions for paper, packaging materials, and construction composites. It's a sustainable pivot that not only champions environmental conservation but also seeks to redefine how we interact with nature to meet our industrial needs.

You have a PhD in Biomedical Sciences and were working in Nephrology. Why switch to materials of the future?

Indeed, my educational journey commenced with a Master's degree in biotechnology, which provided me with a solid foundation in the field. Subsequently, I embarked on a journey to obtain a PhD in Biomedical Sciences, with a specific focus on Nephrology. Throughout this academic journey, my unwavering passion for science continued to grow. As someone deeply immersed in the world of biotechnology and with prior experience working extensively with microorganisms, I developed a profound

fascination for the boundless potential that science holds. My journey in academia allowed me to explore various scientific disciplines, and I cherished every moment of this exploration. However, life often presents unexpected opportunities, and one such opportunity led me to make a pivotal career shift. It was a



transition fueled by the desire to contribute to a more sustainable future and address pressing environmental challenges. This passion for science, rooted in my biotechnology background and my experiences with microorganisms, found a new avenue of expression in Treeless Pack.

You gained quite some attention in the last year. What were the most important milestones?

In the past 18 months, Treeless Pack has achieved significant milestones. We earned the ETH Spin-off Label, a recognition of our pioneering approach. We've also made substantial progress in our production capabilities with the establishment of a pilot vertical farm. This facility allows us to efficiently cultivate our biomaterial, representing

a crucial step towards scaling up production. Our dedication to diversification and versatility has been demonstrated through the development of a diverse product portfolio, which includes prototypes for composites, paper and packaging. These prototypes underscore the adaptability of our biomaterial for a wide range of applications. Furthermore, collaborations with academic and industrial partners have accelerated our technology development. These milestones exemplify our dedication to sustainable materials and our mission to revolutionize industry.

What's your biggest challenge?

Our most pressing challenge currently is securing the necessary investments to scale up our production in an industrial vertical farm. While we've made significant strides, expanding our operations and automating production processes require substantial financial support. This phase is pivotal in our journey, and we are actively seeking strategic partnerships and financial backing to drive our growth.

Who is your co-founder and how did you meet?

My co-founder, Adam, is an integral part of our team. After completing his Bachelor's degree in Mechanical Engineering at ETH Zurich, he went on to specialize in tissue engineering. This field focuses on the convergence of biomaterials and cellular science to create artificial tissues and organs. Our paths crossed some time ago, and

combining our knowledge, we came up with the idea of using biomaterial produced by microorganisms for industrial purposes.

Adam has been involved from the very beginning as a co-founder, contributing to various aspects of the startup. Our roles in the company are adaptable, depending on current tasks, which include biomaterial production, technical development, engaging with partners and conducting market validation with potential customers.

In what way is feminno supporting you in your endeavors?

When I was in the feminno program, I was at the beginning of our startup journey with Treeless Pack. Being a program designed for females, feminno provided me with a safe and supportive space to openly discuss and explore our entrepreneurial ambitions. It was truly inspiring to be part of a community of like-minded women who shared the same determination and aspirations. During those formative stages, feminno played an essential role by offering invaluable insights and unwavering support. It served as a vital link between my academic background and the practical world of business. Through the program, I gained access to mentorship and valuable connections that played a pivotal role in shaping the direction and success of our startup.

Interview by Daniela Gunz

<https://treelesspack.com>

feminno

More information on the feminno mentoring program:

www.feminno.ch

FEMSPIN REPORT

Spin-offs and startups of female academics at Swiss universities: activities and support

FEMSPIN is a collaborative project of the Federal Institutes of Technology at Zurich (ETHZ) and Lausanne (EPFL), the Paul Scherrer Institute, the Universities of Zurich, Basel, Bern and Geneva, as well as the Swiss universities of applied sciences in Western (HES-SO), Southern (SUPSI) and Northwestern Switzerland (FHNW). The recently published FEMSPIN Report aims to encourage reflection, exchange, and knowledge building on female academic entrepreneurship in Switzerland. In Switzerland as a whole, the percentage of women among founders has almost doubled and now amounts to 31.6%, compared to 20 years ago. The proportion of founders with an academic background has also risen sharply. Every second founder now has a university degree; twenty years ago, it was still one in three.

<https://femspin.ch>

Reference: Liebig, B., & Soltermann, A. (2023). FEMSPIN Report. Spin-Offs and Start-Ups of Female Academics at Swiss Universities: Activities and Support. Olten: School of Applied Psychology FHNW. https://femspin.ch/femspin_report_2023/



Our feminno program was featured in the last SEIF - Driving Impact Innovation report.

Female founders more often found businesses that are not meant to scale; they rather look for sustainability and maybe less for fast growth. And many women become social entrepreneurs.

Daniela Gunz, Program Coordinator

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