

The Optimist

A journal to help you survive the valley of shit



EDITORIAL

Not long ago, we found ourselves at the pub the Optimist asking ourselves: why the hell did we ever decide to pursue a career in science? A few drinks in, we realized that we would not be doing relevant science if it was easy. Moreover, in any other job we would probably be bored. To be able to survive our PhD – in a healthy mental condition – we realized we had to change our mindset. We need to learn how to deal with failure, how to be patient and how to create a healthy work-life balance. In order to bring optimism back for ourselves and our fellow PhD students, we came up with the idea for this interactive journal by PhD students for PhD students. Our goal is to become healthy scientists that are hardworking but relaxed, ambitious but sharing, and confident but humble. We are convinced that the best way to achieve this is by sharing our struggles and by seeing the humor in it. But that is not enough. We believe the efficiency of science can be improved. The scientific method has proven very successful over the last decades. Nothing we write down here will change this. However, we would like to step away from the idea that the current way of doing science is the only way and encourage constructive discussions. Therefore, in every edition we will focus on a topic that merits some thought.

The optimist team,

Matthias, Donya, Hava & Simone

Cover: Paula Longás

Me, myself and my PROcrastinationductivity

What better person to talk to about procrastination than someone who has put off writing this article until the next day for 15 successive days? Yet, I know the importance of identifying the mechanisms of procrastination and learning to manage them. It's a daily job that must be adapted to each situation. But let the person who has never procrastinated cast the first stone. Let me tell you how a box of medicines made me realize my need to overcome my procrastination.

What is procrastination?

For 6 years now, I have been on medication to take care of my thyroid. Every morning I have to take a pill to balance my hormones. Each one is assigned to a day of the week. One day when I wasn't feeling my best, I totally forgot to take my pill. The next day, I found myself in front of my mirror with my new pill in one hand, the old one in the other and a seemingly simple but very problematic question in my head. How can I continue to take my pills in the order in which my medication insert had been put together while reintegrating this poor little forgotten pill? The perfect procrastination problem. How to do now what needs to be done today and what should have been done yesterday?

The medication insert symbolized the passage of time and the pill the time allotted to a certain task or action.

I did not use this time capsule to accomplish my task and unfortunately it is lost. I will have to delay other things to try to complete this one. But why do we procrastinate? What's happening in our brain when we know that we have to do something and instead we decide to scroll on social networks?

Why do we procrastinate?

Friction is the negative resource that creates resistance to action. The more friction a task generates, the lower the probability of completing the task. The friction amount is closely related to the size of the immediate reward generated by the accomplishment of the task. The reward can take any form: mental or physical relief, a gift, money, etc.



Actually, according to Neil Fior in his book *The Now Habit*, there are three main fears that create friction.

The first one, the most obvious, is the fear of failure. In other words, you don't know if you are capable of completing the given task. Then, there is the fear of being imperfect. This one is especially for perfectionists. Indeed, they have struggled to start doing the given task because they need to perform the task perfectly on the first try, and most of the time, it's difficult to know what is the perfect way. This fear is also applicable

to the most creative people because their minds imagine beforehand all the negative consequences that might occur if the task cannot be done perfectly.

Finally, there is the fear of being overwhelmed. In other words, we fear being no longer able to manage all the expectations, it's a matter of quantity.

In other cases, it's neither a matter of friction nor fear. It's simply because you don't care enough about the thing. It is possible that our interest in the task at hand has changed or that we made a wrong estimation.

How to fight/manage procrastination?

Nowadays, there are many books and articles that talk about how to be more productive. Without claiming to be an expert on productivity, my fierce battles taught me several lessons on how to beat procrastination. Here are the tips that help me minimise friction.

1. **Writing it all down on your paper/digital to-do list**

- Actually, the brain does not distinguish the difference between a completed task and one that is put off by making a note. Thus, writing my ideas down allows me to get them out of my brain and prevents distractions during focus time.

2. **Clarifying your tasks with high granularity**

- Simple but true, you won't see how to do it until you see yourself doing it. That's why it's important to split projects into tasks as small as possible. The smaller the task, the less time it will take to complete it and the less friction it will generate.

3. **Finding a place where you feel comfortable**

- I am sure that as soon as you read this sentence, you have found this place. Maybe it's a very quiet place like your bedroom or the library. Maybe it's a busy place like the coffee shop on

the corner or your office. This place allows you to enter in the zone, a mind state of focus and efficiency. In my case, it's all the places where I can have a chair, a large workplace and, most importantly, a mug of coffee or water. I found that the mug allows me to stay focused on my work even when I am not actively involved in my task. Drinking keeps my body active and busy so that my brain can keep focusing on what I am trying to complete.

4. The pomodoro method - According to Roy Baumeister, willpower (and therefore focus) can be perceived like a muscle. It is quickly exhausted and needs time to recover. The pomodoro method consists of alternating focus periods (generally 25 minutes) with small breaks (5 minutes). The 25-5 sequence allows the brain to rest regularly without abandoning the context of the task/project.



5. **The 5-minute rule** - It is also called “improvisational productivity”. Excluding the moments I am involved in a pomodoro sequence, whenever I have an idea, I try to act on it immediately. Paradoxically, the longer I think about it and plan it out, the less likely it is to get done.

” Sometimes it is better to accept procrastination and manage it

However, it is sometimes better to accept procrastination and manage it than to force yourself to be perfectly efficient. The Parkinson’s law may be the best way to understand this. Also known as the “law of time dilation”, it says that work expands so as to fill the time available for its completion. It means that instead of working hard and completing the task long before the deadline (and therefore save time), you will probably split the work in equal pieces of time between now and the deadline. Sometimes, you will effectively work hard to complete the task but you will wait until the last moment to start working. In order to manage this unconscious practice, try these two things: set intermediate deadlines to promote efficient work time, and choose the action of the moment according to David

Allen’s four-criterion model - context (or location), available time, available energy, and priority.

Take home message

In conclusion, keep in mind that these tips are not magic formulas. As Tim Urban explained in his famous TED talk presentation, it can be difficult as a boat captain to manage the little procrastination monkey until the panic monster shows up. In other words, everyone somehow struggles to go against their epicurean spirit until the stress of the deadline catches up with them. This phenomenon is probably more evident as society increasingly conditions us to be focused on short-term rewards. In fact, easy access to resources and the encouragement of immediate gratification prevent us from maintaining our will and fighting spirit. But by struggling and then giving up, we can’t achieve our goals. More than that, it’s not that we haven’t finished them but rather that we never took the time to start them. Everyone is a procrastinator. Everyone has their own little monkey waiting to be pleased. But everyone has the choice to keep the captain of the ship at the helm.

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Is there life after a PhD?

In this section, we interview former PhD students about the value of their PhD and which career moves they made later on.



We introduce to you Dr Galle. Eva was a familiar face to anyone on the 8th floor of O&N4. We would see her come in and out in her sports clothes. She was either running or doing research. Eva completed her PhD at the VIB Cancer Institute on epigenetics at KU Leuven and is now a post doc in muscle epigenetics at ETH Zurich. We warn you though... if you follow her on social media, you’ll get jealous of her beautiful Switzerland posts!

What did you enjoy most during your PhD?

The discovery of new stuff that nobody else knew about. The international conferences where you would share ideas, get to know other researchers, learn about others’ research in a more interactive way than through papers, see how people approach different challenges differently.

” The discovery of new stuff nobody else knew about

Why did you decide to do a postdoc? And when and how did you go about applying? How do you find the right lab?

I was inspired by the love of discovery that my PI at the time, Bernard, radiated and passed on to me. I really like that my job is basically to learn, and to discover new stuff for myself, to then bring this new knowledge into the world.

For me it is also important to have the feeling that I’m doing something to improve the world, which I believe is true for almost everybody working in science.

I do love the independence of academia

On top of that, I did not see myself in the private sector where (I thought) stuff is way more outlined for you and you often have to "just" walk the line. I do love the independence of academia (at least, if you find yourself in the right place); you choose which leads to pursue, you are (more) free to shift your working hours, you can make new connections with other researchers on your own initiative. I started applying about 10 months before my contract ended, but in the end, I only started > 1 year after my interview. I was lucky to come across a very nice professor that understood sometimes things don't go the way you wished for. I basically searched for labs in West-South Europe that do epigenetics and then I looked at their biological focus (I wanted something different from cancer, preferably). The list was quite easily reduced to a few options actually and I would consult with Bernard (and sometimes other professors that

knew the prospective PIs personally) to have his (their) opinion as well before applying. It was important to me to find not only a subject that I liked, but also a nice boss. I did send a couple applications to different labs (I think more or less 4), but pursued none of them further than 2 or 3 emails/interviews. In the end, it was more or less straightforward for me, as the lab/PI of my first choice accepted me after 1 skype interview and 1 in-person visit to the lab.

How different is your postdoc to your PhD?

A lot. I completely shifted backgrounds (in vitro cancer cell work to exercise in mice, DNA methylation to histone modifications) and also, with moving geographically during a pandemic, I found myself a bit isolated with really only your colleagues as go-to persons, both for work and pleasure, so the lab space also shifted from work only (PhD) to work+playground (post-doc). My colleagues are my most-frequented friends now, so I do spend more hours at (or around) the lab.



How much of what you learnt during your PhD do you apply today?

Basic lab techniques, of course, and programming in R, and quite a lot about sequencing, but most importantly probably, perseverance. Techniques/technology change/improve a lot over time, and in all labs, things are done differently, but the mindset of not giving up might be one of my key assets that I for sure greatly strengthened during my PhD.

It's supposed to fail 90% of the time, and that's okay

What advice do you wish you knew as a junior PhD student?

It's science. It's discovering new stuff, so it's supposed to fail 90% of the time, and that's okay.

Do you feel a lost soul trying to find out your next professional step? Maybe my story could help you!



My name is Lia and currently I am finalizing my PhD at VIB, studying new approaches to counteract microbial pathogens. I define myself as a professional in biomedical sciences with a particular interest in reducing the gender gap and social inequalities. To do so, I am engaged in different projects. I am founder and chief executive officer of Belgian Aid Network, a non-profit organization that offers humanitarian aid to refugees in need. I help as a copywriter Raise Women's Awareness Network which

mission is to help refugee women to become productive individuals in society. I am author of articles about gender equality for the newsletter of Belgian Women in Science (BeWise) with the purpose to highlight the needs, concerns, interests, and aspirations of women scientists. During the pandemic, I worked as a United Nations online volunteer, helping in the project "Entrepreneurship and Life Skills Building for Young Women" of EACO Uganda by writing of grant proposals, fund raising and spreading awareness.

During my third year of PhD, I started to think more seriously about the next step of my career.

On one hand, I realized that my love for research, inspired by the genuine desire of improving people's lives, was incompatible with the 'publish or perish' system that rules in academia. On the other, the desire of giving a meaningful contribution to society was getting impellent and louder in my head. The changing moment happened when I met a career coach who helped me to

expand my professional horizon, so far defined by the postdoc or industry career fork.

Thus, I started to look into the projects of the European Commission (EC) and I discovered many intriguing working programs that caught my attention.

I decided to apply for the Blue Book Internship program (<https://traineeships.ec.europa.eu/about>) keeping in mind that the chances of success are low and thousands of people apply.



PhD survival tips

The long application procedure consists of three steps and lasts for months. Eventually, I was notified that I did not pass the third step.

Did I ruin your prediction? Were you thinking that I got the position, right? Well, it was a rainy day of the pandemic when I received an email asking if I was still interested in the internship because a new position was available. Take home message: do your superstitious rituals because luck is an important factor!

Do your superstitious rituals

In the EC, I worked at the Research and Innovation Directorate General. This department is responsible for EU policy on research, science and innovation, with a view to tackle the biggest societal challenges.

I learned how this DG invests in research and innovation, believing that they will be crucial not only to spur economic activity in the recovery, but also to accelerate the transitions that our planet and society need, building a new economy for health and well-being in a broader sense.



I discovered more about Horizon Europe that will be front and center to deliver on the EC objectives as a green, digital and resilient future.

My tasks were different and challenging. I helped in drafting and analyzing policy documents about EC priorities. I organized workshops and I had the great opportunity to be a speaker during the R&I days, the biggest event of the EC.

My tasks were different and challenging

In particular, I worked for the Citizen Engagement matrix fostering a dialogue between the needs of citizen and the EC.

The EC is determined to increase citizen involvement in the whole cycle of policymaking, from initial design to implementation and beyond. I contributed to the start of “The Conference on the Future of Europe”. This event plays a key role as it is the first time in history that a constitutional process in the EU is taking place with the European citizens as co-creators. I contributed to the draft of the five EU missions in the areas of Climate change adaptation, soil health and food, cancer, healthy oceans and waters, and climate-neutral and smart cities. Goals are very concrete, for example, saving at least 3 million cancer patients, having 75% of our soils in good health, or achieving 100 climate-neutral cities.

Since the start, missions engage people at the European, regional and local levels in designing our actions and priorities together, putting them at the steering wheel of policymaking. I had the chance to discover a new vision of the EC, appreciating that the Missions are not about what the EU can do for you, they are about what we can do together to shape the future we

want to live in. For me it was extremely important to see how the citizens are at the heart of these initiatives and benefit from my work and commitment.

In parallel, I carried on tasks for the Social Innovation Matrix developing new ideas, services and models to better address social issues.

On a policy and public level, interest in Social Innovation has been growing over the last years. There is an increased awareness of the complexity of challenges modern societies are facing and the subsequent requirement that innovation processes have to meet. Like technological innovations, successful social innovations are based on many presuppositions and require appropriate infrastructure and resources. I facilitated the first discussion between social innovators and funders on mechanisms to match the needs generated by the green transition and recovery with socially innovative solutions that exist and have scaling potential.

The preparation acquired during the PhD gave me all the tools

During my experience as a Blue Book trainee, I felt that the preparation acquired during the PhD gave me all the tools to deal with a completely different work environment, being fast in learning new procedures, bringing a different perspective during the discussions, giving ideas that were highly appreciated and valued. I learned how to draft policy documents, operational conclusions and analyze EC documents.

This internship broadened my skill portfolio and made me acknowledge the EC commitment in finding a dialogue with citizens, researchers and other institutions. I have never seen myself as a “European citizen”. This experience gave me a new European identity and a new perspective knowing that the EC can be the right place to give my contribution to society.

I appreciated the multicultural environment and the wide presence of women in high roles, embodying role models to look up.

Now, what is next?

The internship mainly helps you to understand if you like working in the EC and gives you the possibility to build a network. After the internship, there are different possibilities to be part of the EC, represented mainly by the interim and the contract agent position. The interim is a six-month contract draw up in case of sick or pregnancy leave, or picks of work. With this contract however, you are not an employee of the EC. To enter the EC and become a contract agent, you have to pass the CAST exam that makes you eligible for applying for vacancies (https://epso.europa.eu/home_en).

Working as Blue Book Trainee in the EC is a great opportunity. However, it is important to contemplate other options considering that there are few spots available and an extremely high demand made by candidates with tailor-made CVs. Other possibilities are represented by internships for the United Nations, the European Parliament (Schuman trainee), the Council of Europe, the Committee of The Regions, JRC programs and NGOs as the European Women’s Lobby, depending on your interests.

engage yourself in extra curriculum activities

Now, it is the moment for some tips and tricks!

My first recommendation is to engage yourself in extra curriculum activities to acquire experiences besides the PhD. Especially if you are changing path from your research topic, you need to prove that you have interest in the position you are applying to.

Second, the more languages you speak the better! You get points for knowing several languages.

Third, contact people on LinkedIn and ask for a brief chat to learn about their jobs. This helps you to understand if you like what they do and gives you the possibility to network that is extremely important! Many job opportunities are not published! Finally, try try and try! I do not want to give false expectations. So far, I did not meet many people with scientific background. However, being persistent, motivated will pay off!

Finally, try try and try

I wish you the best of luck and feel free to contact me for any questions you have!



News you may have missed

We all know how depressing reading the news can get, especially if you are already having a tough time at work. But do not despair! We've navigated through all that negativity to come up with a selection of articles that are guaranteed to lift your spirits!

Sealing wounds has never been faster

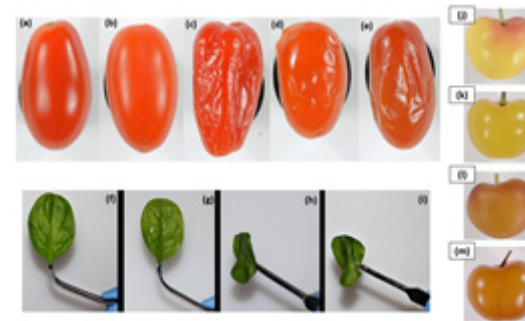
The mechanical engineering department of MIT just came up with a new bio-inspired sealant devised to stop bleeding (1,2). This glue-like substance is inspired by barnacles and their ability to stick to a wide variety of substrates (e.g. rocks, rusty ships, whales) in very harsh (and wet) conditions. As it turns out, this sticking mechanism is also useful to create a temporary seal that effectively stops bleeding from damaged organs or blood vessels. The study shows strong preliminary data in live rats and pigs (the videos in the supplementary material are a bit gruesome but very interesting), where this innovative paste proved to be better at reaching haemostatic sealing than conventional clinical products. Despite some characterisation is still missing, the engineers behind this new formula hope for a quick development towards more interesting clinical applications.



Turning carbon dioxide into stone

Wednesday 15th September was the first day of operation of the Orca plant in Iceland (3,4). This newly built facility is one of the first of its kind for direct air capture (DAC) of atmospheric CO₂ and permanent underground storage.

This facility is also predicted to capture 4000 tons of CO₂ per year and turn them into carbonate minerals in nearby basaltic rock formation, all the while profiting from an adjacent geothermal power plant, for a fully renewable operation. This quantity of carbon dioxide may seem like a drop in the ocean, but the Swiss nonprofit startup Climeworks AG at the base of this movement already has 15 other operational carbon-recycling facilities around Europe and with backing from private investors such as Bill Gates, it has no plan on stopping soon.



Freezing food made greener

A new method for freezing food developed by a collaboration of Chinese (Technical Institute of Physics and Chemistry, Beijing) and American (University of California at Berkeley, Berkeley) researchers promises a huge reduction in energy expenditure and carbon emissions for food storage (5,6). The premise is a change of the fundamental thermodynamic process used to preserve frozen food, switching from the conventional isobaric method to an isochoric (constant-volume) condition. In the study, the researchers show that this freezing process results in both a longer lifetime of the preserved food products and overall better quality compared to traditional freezing methods. If this method were to be used worldwide – and the researchers specify that the technology transfer would be quickly and inexpensive – we would be expected to save approximately 6.4 billion kWh and 4.6 billion kg of CO₂ per year.

Sources

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Speculosu



Ciao! We might infuriate all of Italy with this recipe, but believe us when we say this twist on tiramisu is worth a couple of nasty looks from your Italian company.

Ingredienti (What you need to feed 4 dessert lovers)

- 125 g speculoos cookies
- 250 g Mascarpone
- 50 g icing sugar
- 2 eggs (2 yolks / 1 egg white)
- Speculoos spread
- Cup of strong coffee
- Amaretto

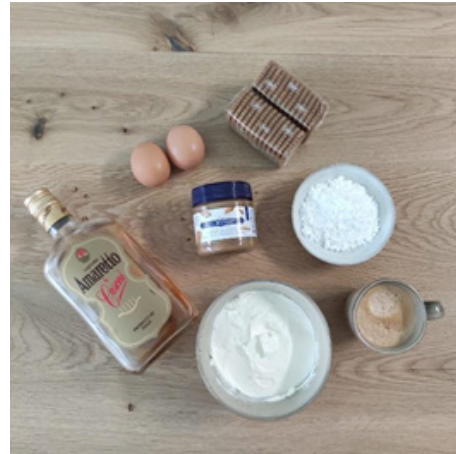
Istruzioni (How to prepare this heavenly recipe)

👩🍳 Start with beating one egg white until stiff peaks are formed and set aside.

👩🍳 In a separate bowl, mix the two egg yolks, icing sugar, 2 tablespoons of amaretto and 1 big tablespoon of speculoos spread until a light and fluffy batter is formed.



head in the



microwave until it is slightly runnier and can be incorporated more easily.

👩🍳 Mix in the mascarpone until a smooth batter is formed.

👩🍳 Gently mix in the egg white with a wooden spoon until just combined (don't over mix this because then you will lose the fluffy texture).

Pro tip: don't tap your spoon at the side of the bowl to clean it off because then you will also lose the fluffy texture of the batter.

👩🍳 Add two more tablespoons of

amaretto to the cup of coffee and swiftly dip the cookies in the coffee before you put them at the bottom of your dish.

👩🍳 Now layer mascarpone on top and repeat the layering process until you are out of the mascarpone mixture. The mascarpone mixture should be your final layer.

👩🍳 Put the tiramiloos in the fridge for at least four hours

This is the hardest part of the recipe, because we all know you want to dive right in. But as Aristotle once said 'patience is bitter, but its fruit is sweet'.

👩🍳 E questo è tutto! Sprinkle some speculoos crumbs on top and enjoy this delicious piece of art!



Buon Appetito!

A BAD DAY IN NATURE ON THE BIKE ALWAYS BEATS A GOOD DAY IN THE LAB

After a lot of walks during the pandemic, let's switch it up and take the bike to widen our horizons. Here are some fun routes through the beautiful Hageland around Leuven. If you enjoy these cycling trips, try the Komoot app to create your own adventure in unexplored territory!

Go with the flow - 46km

Cycle through the valley along the stream of the Voer river. This scenic route passes beautiful castles, a small church with a mysterious secret and the royal Africa Museum

Departure: "Fietsknooppunt" 10 at Naamsestraat, Leuven

How to cycle: 10 - 74 - 75 - 13 - 14 - 18 - 19 - 45 - 46 - 61 - 60 - 25 - 57 - 58 - 27 - 7 - 4 - 59 - 3 - 2 - 13 - 75 - 74 - 10



(www.routeyou.be)



(www.en.wikipedia.org)

The peaceful Fruitland route - 40.1 km

This route is a little farther outside Leuven but certainly worth it. It passes along a small tower with 24 bells, which is part of the UNESCO World Heritage, and the "Ijzerenweg", an old railway line. You can eat your picnic at the "Chalet" or get rehydrated at café "De Smid".



(www.pasar.be, Paul Hermans)

Departure: Budingenweg, Zoutleeuw

How to cycle: 48 - 23 - 51 - 21 - 1 - 50 - 4 - 3 - 45 - 46 - 42 - 43 - 22 - 356 - 27 - 28 - 29 - 30 - 31 - 48

A challenge for more experienced cyclists: "Sven Nys"-Cycling Route - 93.4 km

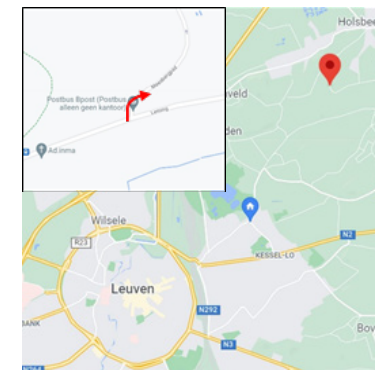
Step in the shoes of Sven Nys, one of the best cyclo-cross and mountainbike racers of his generation. Discover vineyards in Rotselaar, the castle of Horst and beautiful nature during this 90km and hilly route throughout the Hageland. When you need a break from the hills, refresh at the Sven Nys Cycling Center.



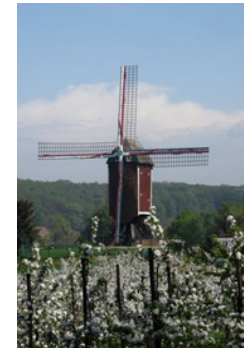
(www.nl.wikipedia.org)

Departure: Start at the crossroad of Holsbeeksesteengweg, Lemingstraat and Meesbergpad in Holsbeek. Start the route going in Meesbergpad-street.

How to cycle: From Meesbergpad, follow the "Sven Nys-route" signs on the road.



(www.kooppunter.com)



(www.inventaris.onroerendergoed.be)



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Main topic

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Is there life after a PhD

Eva Galle

PhD survival tips

Lia Martina

Chef's corner

Silke Vanderhaeghe

Nature & Exploration

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