The Optimist

A journal to help you survive the valley of shit

October 23

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

Cover: Paula Longás

How to Identify an International PhD: the Signs and Symptoms

KU Leuven currently has more than 7000 PhD students - and half of them are expats. We all agree that getting a PhD is hard work, but imagine also having to move, adapt, and settle into a completely new environment all at the same time. While it can be highly rewarding, it may also be challenging when you feel like an outsider. Whether you're from Belgium or abroad, let's dive into the telltale signs and the side effects of doing a PhD as an international student.

The Signs

You've jumped into the unknown. Most people love to travel, see the world, and experience different ways of life. But it's a different story when you're actually moving somewhere. The first step you have to take to move somewhere, is that in itself: you have to take the first step. That 'leap of faith' is scary, and there's no guarantee of success, which is why the first step is the hardest. Once you overcome that fear and make the jump, then you get to experience a thrill that few people experience: the excitement of a life-changing opportunity, the joy of experiencing a new world, and the happiness that comes with taking a step forward and changing your life for the better. It takes courage to 'jump' out of your comfort zone for a new beginning. Starting a PhD at a new university and in a new country can be scary, but you'll never reap the rewards until you take that first step forward. You're probably an international student (or were at one point) if you know the thrill of diving into uncharted waters.

Travelling has made you a chameleon. When you move to a new country, you might also be stepping into a new culture, new ways of thinking and interacting with people, and sometimes even a new language. Getting used to these differences can be a challenge, but often the best way to integrate is to adapt. That doesn't mean changing who you are, but rather learning to accept new ways of living by being accommodating and respectful to those around you. This adaptability makes you a chameleon, which not only helps you live in this new environment but makes you overall more flexible and open-minded. Learning that there isn't one right way of doing things is the key to surviving in this culturally diverse world. Being a chameleon is especially invaluable as a PhD student, where you're constantly learning, trying new things which may or may not work, and surviving the valley of shit in a multinational academic environment. If you can adapt to a whole new country, you can adapt to life as a PhD student!

You learned independence and self-reliance the hard way. You probably developed your independence at some point during adulthood, but when you live so far away from home, you're forced to do most things on your own. Self-reliance can be especially hard when you're moving somewhere completely new and starting a PhD all at the same time. You have to establish yourself in a new country, find your new residence, deal with visas and finances, make new friends, and manage your everyday life on top of all the challenges of a doctoral degree. Not everyone has the luxury of nearby family members to help them move, or get to go home every weekend to do their laundry. But once you start doing these things on your own, you realise how independent and self-sufficient you really are. Taking control of your life gives you confidence and strength, preparing you for any challenge that comes your way – even a PhD. If you've had to move to a new place by yourself, then you know you can depend on yourself and take control over your life.

> If you can adapt to a whole new country, you can adapt to life as a PhD student!

The Symptoms

'Settling in' took longer than expected. You might have given yourself a few days, maybe even a few weeks, to settle into Belgium before starting your degree. Was that enough time? Probably not! I would wager to guess that even months later you still felt insecure in this new place. Having a place to live doesn't always mean you have a home - your heart needs time to adjust to foreign places, and being able to feel at ease and comfortable on an everyday basis doesn't happen in just a few weeks. Little things, like maintaining constant vigilance for cyclists when walking around Leuven, can be stressful when you're not used to them. Taking the train or the bus - probably a piece of cake for most people - might be completely new and foreign to some. Even shopping for food can be a challenge when you can't read the local language and may not know what you're buying. Integrating takes time, and the adjustment period is different for everybody. If you can relate, then you know the struggles of settling into a new home.

You had a steeper learning curve than most people. When you started your PhD, not only did you need to figure out the ins and outs of your project, learn the ways of the lab, and acclimatise to a whole new working environment – you also needed to learn to coexist in a foreign place. Integrating can be very challenging, especially when you're used to different cultures, means of verbal and non-verbal communication, climate, diet, and so on. It takes some time before you feel comfortable in a new academic or work environment, but there's an extra layer added when the way you interact with people is also new. Small things like being too straightforward in a culture where directness is considered rude can take time to recognize and adjust to. It can also be frustrating when you try to integrate but people around you talk in a language you don't understand. In this new environment, even eating lunch can be a challenge! Have you ever found yourself eating too early or too late for most people, or eating food that's

> Your heart needs time to adjust to foreign places

completely different from what the locals eat? If you had to learn how to integrate both in and out of the lab, then you're definitely not from around here.

You feel homesick in more ways than one. Homesickness is a common symptom of moving and being physically separated from loved ones. It affects everyone differently and can manifest in many ways, but essentially it might boil down to feelings of loss or loneliness. You might feel more depressed, anxious, irritable, angry, isolated, or demotivated. It can also impact your sleep, appetite, and energy. Feeling homesick is completely normal, but it can be tough to cope when you feel further away from home than most people. International students often have it harder because there's a physical barrier between them and the support and comfort they might normally have - especially during a PhD when stress levels may be higher than usual. When homesickness hits hard, it's important to find positive outlets for your feelings, do things to connect with your new home (like exploring new areas), and take care of your physical and mental health. Try doing little things to help you reconnect with home: calling your loved ones, eating food that reminds you of home, or planning your next visit. Leaving home to pursue a higher education is a tremendous accomplishment, so even though you're missing home, know that your feelings are temporary but the benefits of you being here will last a lifetime. And if that's not enough, invest in a good wi-fi subscription or data plan to connect your loved ones any time!

Are You Considering a Big Move?

The world (wide web) is wide open. When looking for the next step in your education or career, the best part about setting your search criteria to 'anywhere' is that the opportunities are greater, and you'll have a higher chance of success with each opportunity. If you're no longer limited by physical bounds, it's much easier and even faster to find the perfect project or position that you've been looking for. A willingness to relocate also tells employers that you're committed to the job. International ambition could open many doors for you.

Working or studying abroad can strengthen your career. For those wanting to improve their professional life, finding foreign opportunities could be the best way forward. International experiences can teach you and improve upon invaluable skills, such as adaptability, networking, communication, ethics, languages, and cultural sensitivity. For these reasons, employers may be more likely to choose candidates with foreign work experience or candidates from abroad because they can bring in new ideas and networks. Not only are more opportunities available when you set your search criteria to 'worldwide', but having international experience can make you a more employable candidate.

Know that you don't have to live abroad forever. Packing up all your things and uprooting your life can sound daunting and even scary. Luckily, we are not plants – just because we "uproot" doesn't mean we have to stay anywhere permanently. If you want to take the leap and go somewhere new, just know that you can always go back, or try again and go to a different place with your newfound experience. You could even move somewhere with a goal in mind, and return home once that purpose has been fulfilled. As a PhD student you've probably learned that the fate of your degree - your academic destiny - lies in your hands. Well, it takes the same determination to uproot your life. With every new opportunity and experience you give yourself, you also gain tremendous feelings of hope and excitement for your future. Even if you don't stay there forever, the people you meet and invaluable experiences you gain will always be with you.

> If you want to take the leap and go somewhere new, just know that you can always go back

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PI interview

Doing a PhD in the stone age

For this edition's PI interview we had the honour to meet Prof. Sarah-Maria Fendt. She is a Principal Investigator at the VIB Center for Cancer Biology and Professor of Oncology at KU Leuven, Belgium. Sarah has a Master degree of Science in Biochemistry from TU Munich and a PhD in Molecular Systems Biology from the ETH Zurich. Sarah worked as a postdoctoral fellow at the Massachusetts Institute of Technology (MIT), before starting her independent research program in 2013. Sarah's lab is specifically interested in understanding the role of metabolism in driving metastasis formation and in defining the principles of metabolic regulation that enable cancer cells to communicate with and respond to their environment. Her team applies the powerful technologies of single cell and spatial multi-omics analysis in pre-clinical mouse models and patient samples to study this interplay between cancer cells and their metabolic environment. The research of Sarah's lab has been published in high impact journals including Nature and is funded by multiple (inter) national grants and industry, which

include ERC consolidator and proof of concept grants. In 2020 Sarah has been awarded with the highly prestigious EMBO Gold Medal and a Baillet Latour Grant for Medical Research. Moreover, in 2021 Sarah received the Beug Prize for Metastasis Research and was elected in 2022 as EMBO member. In 2023 Sarah received the Francqui-Collen prize (most important science prize in Belgium) and the 51st Léopold Griffuel award (renowned international cancer prize).

Let's start!

How would you describe your experiences during the time of your PhD?

My PhD provided with the freedom to explore, take initiative, and lead projects. A key aspect that I learned in my PhD was that collaboration is synergistic, meaning working together combining different expertise will result in very exciting research findings and answers that may not have been possible without the collaboration. It also made me realize that I love data, that I like to "puzzle" until the answer to a question emerges and that working with people is fulfilling.

Are there things you are specifically proud of, or things that you would approach differently in hindsight?

I am very proud of all former and current members of my team. Their growth and success during their time in the lab and their subsequent careers make me very happy.
I would not want to miss any detour I took during my academic career because they all taught me important lessons and allowed me to grow as a researcher and person.

> Collaboration is synergistic

If you would have to go back – would you still choose to do the same PhD?

I would choose the same PhD, which was in my case in systems biology with focus on the regulation of metabolism in yeast, because it provided me with a very broad training, taught me to take the birds eye view and look at the big picture, and exposed me to various computational approaches.

In this edition we're talking about living and working abroad. What are your opinions on doing a PhD abroad? And what's your personal experience like regarding to starting a lab in a different country?

In my opinion, international experiences can be very valuable because they provide diversity in culture, research, people, and communities which are important stimuli to broaden our horizon, to stay open-mined and to widen our comfort zone.
Starting a lab in a different country than having done the postdoc or PhD or a country different from your home country is in the beginning challenging because one needs

to adapt and learn about the culture, people, and procedures. But it is also very enriching because it provides the opportunity to continuously learn, to embrace diversity, make new friends and to stay-open minded. So passion can go hand in hand with many other beautiful things in life. This is also important when thinking of holidays. Make sure that you have enough time to do other (non-science) stuff and for example go on a holiday.

Do you have any PhD tips for us?

Believe in yourself, follow the path the data lead you, detours are a learning experience and not a failure, find yourself good mentors and think big so that you can boldly go where no one has gone before.

> Believe in yourself, follow the path the data lead you

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.

In this interview we introduce you to Rory Gibney! Currently a PostDoc at the Trinity College Dublin, he was a PhD student at KU Leuven, in the Advanced Manufacturing Group, Mechanical Engineering Department. Let's give him the stage!

Can you tell us more about you?

I was born in Australia and raised in Ireland. I always gravitated towards maths and science growing up and so I chose to do biomedical engineering when I went to university at Dublin City University (DCU). I graduated with an honours bachelor degree in biomedical engineering from Dublin City University (DCU) in 2023. I did a few research projects in my bachelors and they had been the times when I really excelled so I definitely had an interest in pursuing a PhD however, there were not many opportunities in biomedical engineering in the university at the time. A friend of mine was working as a research assistant in the National Centre for Sensor Research on campus at that time and the work he was doing seemed really interesting and “hands on” so when an opportunity came up there I asked him to refer me and so I started working there also as a research assistant. I worked on projects in environmental sensing there, one of which was in the process of spinning out from the university at the time, Ambisense. While I really enjoyed working there, I realised that I wasn’t really working on the academic side of things,

> Leuven was a great hub from which to travel around the rest of continental Europe

which was where I wanted to be and so I was looking for other opportunities, that's when I applied for a position at the University of Leeds in the UK. I was in Leeds for a year, strangely with the official job title of a research fellow, working on sensors related to investigating the tribology of internal combustion engines. I enjoyed my time in Leeds and met some great people, and they were interested in getting me to pursue a PhD in tribology, or biotribology but I didn't really have the passion for the area that I thought I needed to study it for 4+ years so again I was looking for other opportunities particularly in the Benelux region based on the experience relayed to me by one of the postdocs in the lab who had done his PhD at VUB. I had quite a varied skillset at this point but I hadn't really mastered any of them, but when I saw the project description for the PhD I ended up getting it really stirred my interest as it seemed to combine the engineering skills I developed professionally with the passion that I knew I had for biochemistry.

And so, I started my PhD in KU Leuven in 2016. I returned from Leuven in 2021, and after a brief stint back in DCU while I was still finishing my PhD write-up, I started a postdoc in Trinity College Dublin.

What did you enjoy the most during your PhD?

Definitely **what I enjoyed most was what I was doing outside of my PhD at that time of my life.** I was living in a beautiful city where there was always some form of cultural event, rent was cheap, nights out were cheap, a bike was all the transport I needed and, of course, I had found a wonderful group of friends. Leuven was a great hub from which to travel around the rest of continental Europe, and Leuven itself attracted so many people from different backgrounds and cultures that I really got to meet a lot of interesting people. For the actual PhD, well it was a difficult PhD with a lot of unnecessary drama, but what I enjoyed most was the academic challenge. Being somewhat alone in what I was doing and the campus where I was doing it, there wasn't much of a support network around me so much of what I did relied on me reading papers and developing an understanding of the printer I was using, an aerosol jet printer, and the material I was using, collagen, and how different this material might be from that typical conductive inks that the printer was intended to work print. Of course, both the printer and the particular collagen I was using were not in prolific use in papers but I could still rely on the more fundamental studies on which the printer and the material was based and then I also had my own observations of course.

Why did you decide to go for your current job? Which steps did you have to take to achieve this?

At the end of my PhD, although as I mentioned I had a difficult time, I felt that I wasn't done and I wanted to continue working on biomedical research, but I knew that I wanted to join an established research group. So I had a number of groups in mind who had an impressive output, and I kept an eye on their vacancies from maybe 2 years before I actually end up finishing my PhD. I followed the PIs on twitter and made sure to look out for vacancies there, and I engaged a bit more in the scientific community of Twitter and Researchgate. If I saw a role that I thought I was suited for, I would apply even if I wasn't sure when I was officially finished,

> It was a difficult PhD, but what I enjoyed the most was the academic challenge

I knew I could leave in a couple of months and I mentioned briefly in my cover letter. Although I didn't apply for a funding call, I did reach out to funding organisations for more information and read up on everything I could find, and part of that is also finding the PI you want so I thought, I might not be a suit for this role, but I could suggest this and get the PI I want on board.

What are your main responsibilities in your current job and how do you feel your PhD prepared you for this?

My main responsibilities are mostly carrying out research and guiding PhD and masters students where I can, and of course I also look for guidance from them where I can. I guess this isn't too different from what I did in my PhD as I was often mentoring PhD students and later I was mentoring some PhD students at times. However, it is a much larger, more resourced group and so I have been able to be involved aspects that were not

> I believe PhD is a form of public service

available in my PhD, like in in vivo studies. Despite my inexperience in some of the likes of in vivo and even the regular in vitro cell culture, I am one only people in the lab with this sort of varied background and it means I can help out more in some of the more engineering aspects of peoples projects with printers or in coding.

Do you feel like the PhD has an added value?

I believe a PhD is a form of public service, that's why it should be publicly funded and the knowledge gained should be available to the public. For the individual, I think it also possesses added value as **you get to stand toe to toe with experts in your field which is a rare opportunity** to get, and surviving it can really bolster you in future challenges.

What would you give as advice to PhD students?

There's a danger in that a lot of **PhD students** start their PhD because they **have a passion for their research, and that passion can be dangerous in terms of finding a good work/ life balance**. So my advice would be to define limits for yourself, and set-up regular meet ups with friends or family whether it be for a coffee, a pintje, or like a training in a sports team. Also, don't be afraid to reach out to other professors in your own institution and other institutions in other countries about challenges that you're facing in your research whether it be regarding equipment you want to use, or a technique you want to learn, or another challenge you're facing.

In this edition we're discussing how to deal with a PhD program in KUL for expats. Being an expat, what was your experience in Leuven?

As I mentioned earlier, I love Leuven, it's a wonderful city, and it has this sort of local governance that allows ideas to be implemented a lot quicker than it can happen in Ireland or the UK, so I loved seeing the city change over the years to become more active travel focussed and less and less car-centric. But as with an expat in any country it can be difficult to find a friend group, so my advice would be to join a club like a sports team or a social club. I tried a few sports teams after arriving and while I tried not to be a typical *Irishman abroad* I eventually stuck with my Gaelic football team, The Earls of Leuven, because it had a great mix of people from different backgrounds and was not just Irish people. While I did form friendships elsewhere, in the club I found the friendships that lasted. Leuven and other similar university cities can be transient place for people, they might come for a masters, a postdoc , Erasmus, or a secondment so I found myself often having friends move away, however I had a core group of friends with a mix of locals, and people from all over who had moved long-term that were there throughout my PhD and I owe them a lot for being my support network while dealing with the challenges of my PhD.

> Define limits for yourself and set-up regular meet ups with friends or family

How to write a good CV: tips and tricks

Managing your career does not only involve exploring and testing potential future situations through networking, you also need to have communication skills to effectively present your suitability for a given job in a cover letter, a resume, and/or in the interview process. One of the biggest challenges that PhDs face when applying outside of academia is the fact that academic CVs differ from what employers outside of academia expect to read. The focus lies on academic achievements rather than roles and responsibilities. In this edition of The Optimist, we ask to **Dr. Lucia Smit (Braingain, BE)** to provide us some practical tools to help you analyze job advertisements and to write good CVs.

Every job advertisement has a section with a description of the responsibilities and tasks involved in the job and expectations of the candidate. Before applying, you should read the job advertisement thoroughly and **make a list of the required hard and soft skills**. Hard skills can be 'proven' by referring to a specialized degree or responsibilities taken in a specific sector or project. Soft skills refer to your ability to get on with others when working together (interpersonal skills, such as taking initiatives) or your qualities (e.g. detail-oriented). The first thing to ask yourself when reading the job description is: will I be able to do this? However, some organizations work with their own technology or procedures and in this case you will be given on-the-job training to learn all the requirements.

When writing a CV, **the list will help you tick the boxes to find which requirements you meet and which you don't** (but watch out if you suffer from imposter syndrome - in this case, do the exercise together with someone else). Lastly, you can use it as a checklist for your CV to see whether you covered all their requirements. If you are able to tick 80% of the boxes and you are confident that you will be able to carry out the main tasks involved in the job, you can apply for the job. Keep in mind that **PhDs sometimes tend to underestimate their skills and apply for jobs for which they are overqualified**. Applying for jobs that require a Bachelor's Degree rarely works out well. Even though you have the technical skills to do the job well, your employer will be concerned that you might leave soon after being hired because the tasks lack complexity.

How do employers read your CV?

As PhDs we are accustomed to writing academic CVs. We concentrate on our degrees, professors, departments, publications, conferences we attended etc. However, when employers read a CV they **focus more on your work experience**. What they are interested in is your job title, roles & responsibilities, organization, sector, accomplishments, technical skills (IT, language, etc.), motivation and interpersonal skills (soft skills).

How to build a good CV:

1. Include your doctoral training under 'work experience' and not under 'qualifications'. This is a common mistake PhDs make and it makes it look like you do not consider you have any work experience. And yet, you have been a doctoral researcher for four years so this should come under 'work experience'.

2. For each position, you should mention:
a) Timeline;
b) Job title: doctoral researcher in your case;
c) Employer: your institute (not your promotor);
d) Include some roles, responsibilities and results:
i. Describe and quantify your roles and responsibilities;
ii. Use wording, roles from the job advertisement;
iii. Describe and quantify your results;

3. Add a short summary in which you create a storyline between your current job and your future career aspirations. When you switch to another sector, you have to make sure that employers understand that this is a deliberate choice on your part.

4. The qualifications section should be no longer than 2-4 lines and for each qualification you should indicate on one line:
a) Year of graduation;
b) Degree of the field (and honors);
c) The granting organization;
d) Do not include thesis title in your qualifications section, this should be included in your list of publications;

5. For the list of your publications and conferences and meetings attended, you can refer to a URL with your academic records: international publications and active participation in international

conferences see: https://...

6. If your research subject is not relevant to the job, don't write too much about it. Concentrate on your roles and responsibilities. The more you talk about your expertise and academic achievements, the more employers will think that you are still attached to your research and will have doubts about your motivation.

7. Highlight your extra-curricular activities: be specific about your roles and achievements.

8. Include time spent abroad.

9. Include a list of your technical skill set.

10. Employers like seeing that you have professional networks. List the names of the professional organizations that you have access to or with whom you meet frequently:

a) Organizations that you have collaborated with;

b) Organizers of conferences and meetings;

11. Make sure that you mention closed-ended timelines in your CV.

Testimonial Claire (35), Communications Officer, postdoc in Old English

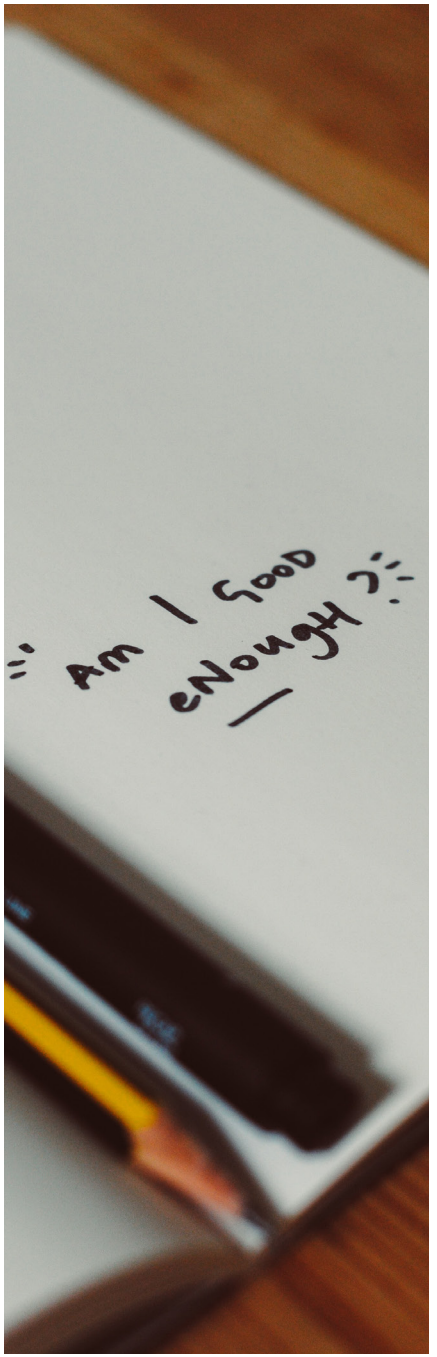
"*I don't know what I am doing wrong. I have been applying for positions for a couple of months now and I am not getting any response to my applications. I know what I want to do, I want to work as a communications officer, but wherever I apply, they do not seem to find what they want in my CV.*"

When reviewing Claire's CV we noticed that she had a very impressive academic CV. She made a lot of references to her academic achievements (publications, talks at international conferences, subjects of her theses).

We reworked her CV and stressed all the technical and soft skills (editing skills, copywriting, project management, extensive knowledge of the English language, developing and maintaining websites and other IT tools) that were important for becoming a communication officer and included her motivation in a short summary profile in her CV.

Claire was asked to go for an assessment and an interview and was appointed for the job as communications officer with the national government. Shortly after she started in this new job, she was detached to a European Innovation project at EU headquarters to help to create a database for farmers; recent research in the field of agriculture is being made accessible to farmers all over Europe. Claire was appointed for the job because of:

- Her technical writing skills
- Her writing skills for the general public
- Her extensive knowledge of English language (native speaker level)
- Her work experience abroad (postdoc in the UK)
- Her project management skills
- Her analytical and conceptual skills (development of a new information tool).

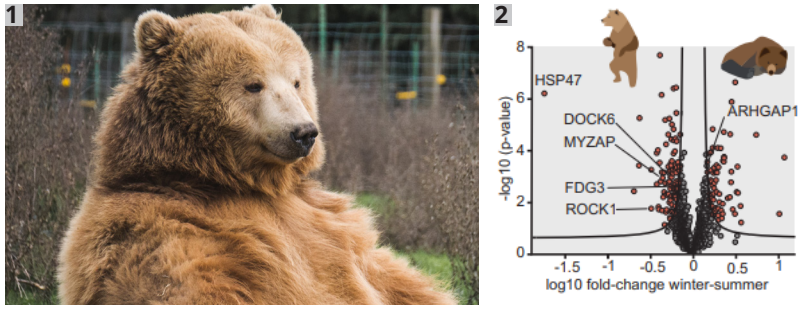


Scienterrific news

Sleep like a bear

Hibernation is a remarkable physiological phenomenon that reflects nature's inventive capacity in adapting to harsh environmental conditions. This phenomena occurs in a variety of animal species and is characterized by a dramatic decrease in metabolic activity, lower body temperature and prolonged rest. This strategy allows the animals to endure harsh winters, food shortages and other conditions that would otherwise be unsustainable. Humans who experience a prolonged period of immobilization, have an increased risk for potential deadly venous thromboembolism (VTE, blood clots). Remarkably, hibernating bears that experience months of immobility every year do not encounter such complications. Researchers have now gained an understanding of the underlying reason, published in Science.

For two winters, researchers dug out 13 free-ranging hibernating brown bears from the snow in Sweden. They tranquilized the bears, took blood samples, put on a GPS collar and put them back in their dens. During the summers, they tracked the same bears and took blood samples again to investigate any seasonal differences. The researchers noticed a protein called Heat Shock Protein 47 (Hsp47), released by platelets, was 50x more abundant during the active period compared to hibernation. The team observed an increased risk to VTE when increasing the HSP47 release in blood of bears, mice and humans. Therefore they suggest that HSP47 is a promising target to prevent VTE in patients exposed to immobilization.



Figures 1) One of the brown bears in Sweden researchers took blood samples from. 2) Plasma proteome analysis in hibernating and active bears (unpaired analysis of 8 individuals). *Source: Manuela Thienel et al.,Science 380,178-187(2023). DOI:10.1126/science.abo5044*

James Webb's telescope new picture of Nebula's ring

Approximately 2,200 light years away, there are remains of a dying star, a structure known as the Ring Nebula. On August 21st, NASA announced a new picture revealing more insights on the phenomenon. In the new image you can gaze directly down into the middle of the whole structure. You can see the dying star that is awaiting the final stage of stellar evolution; becoming a white dwarf (also known as a corpse star). While this death process is happening, you can also observe the outer shells of gas which is causing the "ring" structure. It consists of thousands of dense clumps of molecular hydrogen gas, each of them about as massive as the Earth.

"Our MIRI (Mid - InfraRed Instrument) images provided us with the sharpest and clearest view yet of the faint molecular halo outside the bright ring. A surprising revelation was the presence of up to ten regularly-spaced, concentric features within this faint halo. These arcs must have formed about every 280 years as the central star was shedding its outer layers. When a single star evolves into a planetary nebula, there is no process that we know of that has that kind of time period. Instead, these rings suggest that there must be a companion star in the system, orbiting about as far away from the central star as Pluto does from our Sun. As the dying star was throwing off its atmosphere, the companion star shaped the outflow and sculpted it. No previous telescope had the sensitivity and the spatial resolution to uncover this subtle effect."

Figures *Left*: Image from Webb's NIRCam (Near-Infrared) *Right*: Image of the Ring Nebula from Webb's MIRI. They reveal details in the concentric features in the outer regions of the nebulae's ring. Roughly ten concentric arcs located just beyond the outer edge of the main ring. The arcs are thought to originate from the interaction of the central star with a low-mass companion orbiting at a distance comparable to that between the Sun and Pluto *Source: https://blogs.nasa.gov/webb/2023/08/21/webb-reveals-intricate-details-in-the-remains-of-a-dying-star/*

HEY IT'S OKAY TO...

Science is serious business, but we may share similar frustrations

...be on Linkedin checking for other jobs while waiting for your experiment to finish

...fall asleep during your Monday morning lab meeting (BUT maybe not okay for your PI)

...say "yes" every time someone asks if you want to have a coffee

...get side-tracked solving an interesting problem of a colleague instead of focusing on your priority work

...dream about your upcoming experiment - as long as it's not a nightmare!

...not miss wet-lab work - and be excited once your return

...be happy about a machine break-down giving you time to finish up some other to do's

The Art of Celebrating Yourself in a Wacky Ph.D. Universe

In today's rapidly evolving academic landscape, pursuing a Ph.D. can often feel like entering a high-stakes game of survival. The competitive nature of the scientific world, dramatically triggered by the necessity of groundbreaking discoveries and intellectual achievements, can leave even the most resilient people feeling overwhelmed. Although we are strong achievers; we are physically and mentally affected by each other. Especially with academic stress, we easily get caught up in negative aspects and tend to forget how to congratulate our achievements. In this piece, we would like to help you accomplish your Ph.D. marathon with some tips on celebrating yourself!

Embrace Your Uniqueness

📖 Take time to identify your strengths, skills, and interests. Embrace what makes you different from others in your field.

📖 Reflect on how your unique qualities contribute to your research and academic journey. Your individual perspective can lead to innovative ideas. Write down your ideas on a paper, to your digital notes or in a journal to be more organized! Remember, there is no such thing as a "silly" idea!

Reward Yourself

📖 Establish a reward system for completing milestones. Treat yourself to something enjoyable—a movie night, a spa day, a new book, or any other activity you feel suits you.

📖 Even if you have a bad day or week, congratulate and reward yourself because of your hard work.

📖 Dedicate time to your hobbies and interests outside of academia. Engaging in activities you love can be refreshing and invigorating.

📖 Keep a "success journal" to jot down even the smallest victories. This will serve as a reminder of your progress on challenging days.

📖 Celebrate milestones with your loved ones; like completing a

difficult chapter, a publication, presenting at a conference, or successfully troubleshooting an experiment! Don't be shy to share these with your colleagues!

Listen to Your Body and Mind

📖 Prioritize self-care routines such as exercise, healthy eating, meditation, dance, painting, spending time outdoors, or any other specific activity that makes you feel at ease and rested.

📖 Set boundaries to avoid burnout. Allocate time for rest and relaxation to recharge your energy. There are tons of things to do, yet time is limited. Although a Ph.D. takes away most of your time in the day/week; remember you still have a life outside of your Ph.D. Detachment sometimes looks like losing time, but it could be a great moment to recharge yourself to achieve more than constant struggle.

📖 Seek mental help guidance if you feel necessary! Our mental health matters!

📖 Ph.D. is a path that we are not only developing scientific skill sets but also getting to know ourselves as well. Take some time to understand your reactions, emotions, and expectations.

Set Realistic Goals

📖 Sometimes our own expectations hurt and disappoint us before others. In the Ph.D. journey, it could come quite often because we are trying new things. Break down your long-term goals into smaller, manageable tasks. Keep it realistic! Especially your deadlines!

📖 Use the SMART (Specific, Measurable, Achievable, Relevant, Time-Bound) goal-setting framework to ensure your goals are attainable.

Appreciate Your Quirks

📖 Integrate your personal preferences into your study routine. If you work best at night, consider adjusting your schedule accordingly.

📖 Infuse your workspace with elements that make you feel comfortable and inspired, whether it's a favorite quote, some artwork, a picture, or calming colors.

Create a Positive Environment

📖 Organize informal gatherings or virtual meetups with fellow Ph.D. students to share experiences and celebrate each other's achievements.

📖 Create a supportive network where everyone feels comfortable to open up about their struggles and triumphs.

Practice Self-Compassion

📖 Replace self-criticism with self-compassion. Treat yourself with kindness, especially during setbacks.

📖 Regularly reflect on how much you've learned and grown since starting your PhD journey.

📖 Imagine what you would say to a friend facing similar challenges, and offer the same level of understanding to yourself.

Visualize Success

📖 Create a vision board or visual representation of your goals. Use it as a reminder of where you're headed and what you've achieved so far. This could be on your wall, in a journal, on your computer, or on your phone screen!

📖 Regularly visualize yourself successfully defending your thesis or presenting groundbreaking research.

So, go ahead, break out the confetti cannons, raise a toast to your uniqueness, and remember, the universe of science is a better place with your colorful quirkiness.

OPEN BAR

Cocktails & Snacks

Yes, you are reading correctly. You have finally reached your fav section of this The Optimist edition. Welcome to our open bar!

Pornstar Martini

~ Classic sweet cocktail

Ingredients (for 1 cocktail)

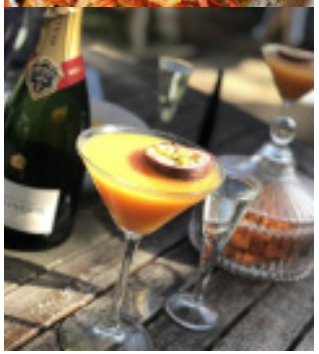
- ◊ 6 cl vodka or alcohol-free vodka
- ◊ 3 cl lime juice
- ◊ 6 cl passion fruit juice (or flesh of 1.5 passion fruits)
- ◊ Egg white (0.5 egg)
- ◊ Couple of drops of vanilla extract
- ◊ 6 cl champagne/prosecco/cava or alcohol-free sparkling wine
- ◊ Half passion fruit (for garnish)

Preparation

Mix all ingredients in a cocktail shaker (preferably make 2 cocktails/shaker so you can use white from entire egg) and fill the shaker with ice cubes. Shake vigorously for 30-40 seconds. Strain the cocktail in a cocktail glass and garnish with the half passion fruit. Serve the sparkling wine in a shot glass and add prior to consumption.

What to eat with it?

Why not some salted lemon shrimps?



English Mule

~ Variation on the classic Moscow mule cocktail using gin instead of vodka

Ingredients (for 1 cocktail)

- ◊ Ginger beer (half a can)
- ◊ 6 cl Gin (London Dry Gin e.g. Tanqueray) or alcohol free gin (e.g. Tanqueray 0.0)
- ◊ 3 cl lime juice
- ◊ 1-2 cl simple syrup (depending on flavour)
- ◊ Small ginger piece + 2-4 lime wedges for garnish

Preparation

Mix the Gin, lime juice and syrup in a cocktail shaker and fill the shaker with ice cubes.

Shake vigorously for 30-40 seconds. Strain the cocktail in a mule mug. Add the ginger beer to the mug and top off with crushed ice and the garnish (ginger + lime wedges)

P.S1. If ginger beer is too strong for your taste, you can replace it by ginger ale (e.g. Canada Dry) **P.S2.** You can replace the lime juice/ wedges with raspberry coulis/ raspberries if you like a sweeter variant.

What to eat with it?

Perfect with Nachos & Guacamole!

Horoscope for Scientists

Aries Dear Aries! Speed is your middle name. YOUR ENERGY IS ALL OVER THE PLACE! Soon, your ambitious nature might lead you to discover a groundbreaking theorem and your cosmic concoctions might stir up a formula as fabulous as your charisma.
Lucky lab tool Multichannel pipette (Fast and Furious!)

Taurus Well, hello there, Taurus! In the coming months, lots of opportunities will be available. YOU WILL LOVE THEM! Collaborate, talk, network, plan, or apply for grants but seriously enough with lazy couch days! Do something and work!!! Lucky lab tool Outlook calendar (Plan, set, GO!)

Gemini Double trouble, Gemini! You are known for your incredible humor, astounding intelligence, and breathtaking beauty. Your quick wit might outshine the lab lights these days. My tip? Just keep being awesome, you HOT STUFF! Lucky lab tool Heating plate (U can't touch this!)

Cancer Oh Drama mama! What a ride so far, uh?! In the past months, you helped colleagues with media changes, cleaning, re-stocking the antibodies, and a million other tasks. That is really nice, well done! Sharing is caring but maybe it is also good to do something for yourself like focusing on YOUR Ph.D.?! Lucky lab tool Cell culture hood (Use it for yourself this time, please?)

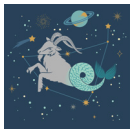
Leo Roar, Leo diva! Your charisma is blinding!!! What better occasion than volunteering for the next seminar? And maybe also the upcoming Journal Club? And, why not also a conference presentation? We beg you! It's for your own good! WE KNOW HOW MUCH YOU LIKE TO SHINE!
Lucky lab tool PPT (We want your own good ONLY)

Virgo Dear Virgo, you perfectionist! Stop putting labels all over the lab, and give your attention to your research! Cause it is ALMOST your doctoral presentation. It is okay if shelves are not alphabetically organized! Remember, life isn't just about data points and lab coats – it's also about embracing the occasional scientific serendipity. Come on, do something to end all of this! You're almost there!!! Lucky lab tool Ethanol-proof marker (to match your label-printing machine)

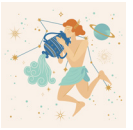
Libra Dear Libra! Sorry to say this, but SECOND THOUGHTS are right behind that corner. You haven't decided what to wear for your poster presentation, don't you? How about your lab outfit tomorrow? Is this what is keeping you awake at night? How about checking the lab catalog to plan your purchase for the next experiment? Lucky lab tool Multi-step pipette (Cause, why not?)

Scorpio The gatekeeper of the underworld! We are all aware that it is you who is working late at night. YOU ARE NOT INVISIBLE! Channel your inner Captain Nemo vibes instead, and try to navigate the sea of data and equations that will appear in front of you, but be cautious not to dive so deep that you end up in your own intellectual Bermuda Triangle. Lucky lab tool Fluorescent microscope (Every little detail counts)

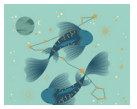
Sagittarius Hey there, superstar! Your quest for knowledge is like a never-ending runway, but take a breath hun. I bet if you stop for a second and recharge, you'll feel even more bursting with curiosity about new scientific challenges! I heard that Ibiza has an outstanding PhD VISITING PROJECT just waiting for you! It comes with open-bar sangria so, why not? Lucky lab tool Graduated beaker (Sangria can be poured everywhere)



Capricorn The ruler of hard work! The past couple of months were filled with long working hours and sleepless nights. Yes, we are aware of that little side project of yours of turning everything into gold... YOU ARE NOT KING MIDAS! Get back down to earth cause we are not doing media changes for you again! Lucky lab tool Coffee machine (To stop daydreaming, for once!)



Aquarius Aquarius, expect the unexpected! Your ideas are like a presentation extravaganza, but don't get lost in creating a lab-based utopia. Your skepticism might get a surprise visit from a UFO – Unidentified Fun Opportunity! TAKE IT! Put down the calculator and embrace a little scientific silliness! The stars got your back! Lucky lab tool Calculator (just to pick it up and put it down AGAIN!)



Pisces Darling! You've cried enough already! Don't you think it's time to SNAP OUT OF IT! Not every chemical reaction needs an emotional monologue. Listen to your inner scientific muse and we know you could do great things! Few future suggestions? Some never-ending coffee beans or how about infinite lunch breaks? Just saying. Lucky lab tool Shaker (Shake it off, shake it off!)

Hey you!

Do you have fun ideas for our upcoming editions? Any *feedback*? We would like to **hear your opinion**!

Follow this link: https://tinyurl.com/bdh3am42 ..or scan the QR code to fill up the questionnaire "*What would you like to read in The Optimist?*"
Don't worry, this is not a PhD milestone :D, it will only take less than 1 minute! Thank you for the support!

SCAN ME

Always stay updated by following the social media channels of **The Optimist**

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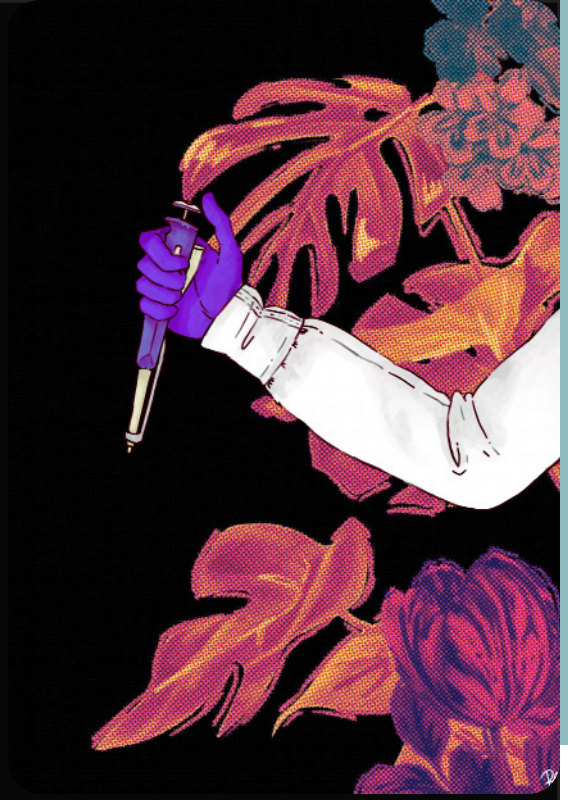

For recent & previous issues visit:
https://cbd.vib.be/community/optimist

Thank you for reading us!

Main topic
Alina Soto

Doing a PhD in the stone age
Silke Vanderhaeghe & Sarah-Maria Fendt

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Horoscope for Scientists
Ayşe Köse & Matilde Contardo

Hey you!
Silke Vanderhaeghe

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