



The Optimist

A journal to help you survive the valley of shit

December 2019 EDITION

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 and Joni

Cover from Unsplash: credits to Donnie Rosie

We can spell "Science" without "Ego"

If you have never found yourself fully absorbed in the dream of a crowd cheering and chanting your name, raise your hand. Well, chances are you are still holding this brochure firmly, and to no surprise! The reward that follows an achievement is, in many cases, what is motivating us to raise to a challenge in the first place. This general rule is often applicable to Science.

Embarking in a scientific quest, by definition characterized by twist and turns, minor frustration and major disappointments, would not be appealing if there was no glory awaiting at the end of the run.

So far, so good; you would say, but all lights cast a shadow. In fact, it is becoming increasingly evident that our society is built upon a hero-worshipping culture. In my humble opinion, when it comes to Science, relying on the same trend might not be ideal. In such an intellectually-driven field of work, an idea (as crazy as sometimes can be) should be the Alpha and Omega, with the limiting factor for its realization being the intrinsic quality of the idea itself.

On the contrary, an increasingly worrying phenomenon, largely observable in many community gatherings, is the ability of the **Body behind the idea** to polarize all of the attention.

To appeal larger crowds, social events in science are starting to rely more and more on the presence of certain illustrious Surnames, that in return love to **indulge in excessive self-promotion**.

While there is absolutely nothing wrong with being our own supporters, there is the risk of taking such a habit one step too far. How detrimental would it be if, at every given opportunity, we would start cherry-picking or embellishing our data according to the rules of “window dressing”, in the hope of being noticed and therefore become worthy of the red-carpet attention? And why do we suddenly feel the urgency of stating among our collaborators glorified names, even when they are barely having an impact on the direction of our research, simply to pick up their momentum and hopefully raise new funds?



The general impression is that the current system is forcing us to shift too much the focus of our attention towards the wrong criteria to measure the quality of what we do.

This worrisome trend is leading us to believe that the name behind the findings is even more important than the findings per se. As a consequence, scientific progress could be dramatically hindered. Less qualitative science could be nurtured and secure funds simply because a high-sounding surname in the field is (somewhat) involved. Meanwhile, smaller fishes, with brilliant ideas, struggle to swim against the tide.

The following ring in the chain of effects of the modern hero-worshipping culture is that a cancerous egotism is slowly penetrating our environment. The scientific community is starting to be affected by the paradigm "I will succeed, if all the others fail", which is translating itself in the refusal to lend a hand, when needed.

This stubborn refusal help each other has a devastating impact on what is the main purpose of our work: to discover, to be helpful to society, to improve technology and, therefore, everyday life. **Instead, we are letting the fear of being outsmarted (or should I say out-published?) cloud our judgement.**

This might be the reason why most of us are currently unable to see that the only reward we should seek is precisely the positive contribution to the community, which we delay by our decision to put our own ego first.

We should instead be proud to be part of a network, to reach out, to challenge our view through a genuine exchange of opinions. We should be proud to ask for help, to offer help, to share what we know (all of it: the good, the bad and the ugly). We should accept to fail. We should accept to be exposed and vulnerable to the words "You made a mistake", because they might be followed by the magical sentence: "Together we can make it better". Most of all, we should be proud to be only infinitesimally small gears in an extremely complex clock that is projecting us into the future.

Dear all, I beg you not to forget that **robust science** has to stand on its own, regardless of who created it. **Every single contribution matters**, as long as it helps us collectively move in the direction of uncovering nature's secret.

An extreme example of such honorable sentiment is brought to us by the sophisticated rebellion of Grigorij Perel'man. In 2006, the mathematician was selected by the International Mathematical Union (IMU) as the awardee of the prestigious Fields Medal-analog to the Nobel Prize. Perel'man, in fact, was the first to submit to the attention of the community a convincing solution to the Poincaré conjecture, a supposedly inexplicable problem that was racking the brains of many notorious scientists since 1904. However, to the deep shock of the entire community, Perel'man never claimed the medal. After kindly having declined the prize of 1 million dollars, he resigned his academic position in St. Petersburg and completely vanished from public life.

The reason underlying this atypical behavior is to be found in the regulation applied by IMU for the assignment of the Field medal.



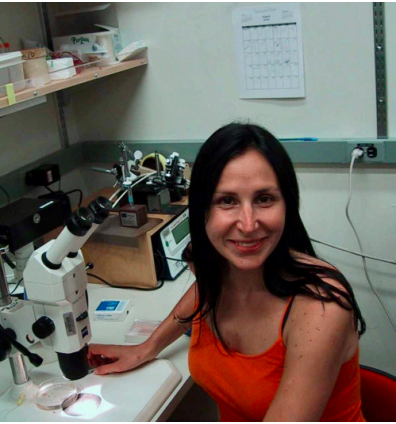
Accordingly, only **one** scientist, whose name is the first to appear in the publication disclosing the data, can be awarded the prize. For Perel'man this was simply unacceptable. His theorem strongly relied on the **contribution** of the other brilliant minds. By no means, he could bow to a dictum that would so brutally disregard the sense of communion on which every great achievement lies its foundation. With his rejection, Perel'man wanted to leave us with an imperishable reminder: "nanos gigantum humeris insidentes". We are little but, by standing on the shoulders of giants, we can see further than anyone else

Written by Marika Marino
Edited by the optimist team

DOING A PHD IN THE STONE AGE

Interview with a PI

For this edition of the Optimist we have gone across the channel to conduct our PI interview



Dr Sandrine Thuret is a Neuroscientist & Head of the Neurogenesis and Mental Health at IoPPN at Kings College London. Dr Thuret was one of my lecturers during my masters and she doesn't let you leave the seminar hall without making some sort of impact on you (-Donya). She is not only inspiring with her impressive resume (University of Heidelberg, Germany with a PhD in Neuroscience a post doc from the Salk Institute) but also a strong advocate for diversity and inclusion at Kings College. We hope you enjoy this special edition as much as we did.

How would you describe your experience during your PhD?

I was the first PhD student of my supervisor, so I was very lucky to get one-on-one training at the start on many techniques directly from the 'master' himself, and because for a while I was the only graduate student, there was a great academic freedom on which questions I chose to ask and experiments I decided to design and try out. On the other hand, because he was setting up his lab in an Institute in a city/country (Heidelberg, Germany) where he didn't study either, we were both learning the rules, or even just understanding how to order reagents or

how to get ethical approval/permission/safety rules, so sometimes it would be slow and frustrating, but this definitely built my resilience and served me well every time I moved to a new country to do research!

It is important to allow experimental failure

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

I did a large gene expression screen to understand how midbrain dopaminergic



neurons develop – back then- no microarrays, or RNA seq platforms! It was all big gels, cutting out differentially expressed bands and cloning them one by one! So, it took a big chunk of time out of my PhD! I picked one of the genes for 'my' functional studies, and all the other genes I discovered to be differentially expressed where a bit my legacy to the lab and the basis of many PhD/postdoc projects of people joining the lab as I was leaving!

Which advice or tips would you give us PhDs?

The nature of research means that things will not always go according to plan. It is important to allow experimental failure without feeling yourself like a failure. It is

not you; it is that specific experiment. If you do start feeling like a failure, ask for help and allow your supervisor and others to support you. Try to attend your departmental seminars on top of your lab-group meetings, even when the topics are away from your area of research. You will learn something you would not have been exposed to in your lab, it might give you novel ideas or help you to reflect on a new technique! Finally, take every opportunity to present your research locally, nationally and internationally. Presenting can be stressful, but it gets easier as you do it, and it is a great way to get feedback, ideas and network.



Want to learn more about Sandrine Thuret?
Check out her TED talk or follow her on twitter @Thudrine

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

Damya Laoui has an MSc in Bioengineering and obtained her PhD in 2014 at VUB under the supervision of Prof. Patrick De Baetselier and Prof. Jo Van Ginderachter in the Laboratory of Cellular and Molecular Immunology. During these five years, her research focused on the role of macrophages in cancer. In 2018, she received the Ignace Vandershueren prize for this work. Her path was somewhat atypical, as she welcomed her first child during her PhD and therefore declined an offer at Harvard. Instead, she chose to work for one year at the EPFL University in Switzerland. After moving back to Belgium, Damya started working as a research scientist for VIB and became a professor at VUB in 2018. Her research is focused on finding new immune therapies against cancer. For her innovative work she received the New scientist award (2018) and Dunia award (2017), and has been added to the select group MIT Innovators under 35 Europe (2017).



What did you enjoy the most during your PhD?

During your PhD you can focus completely on one project. You perform the experiments yourself and if you then find something, you are at that moment the only person in the world who knows it. I found this amazing and this is something I miss right now. As a group leader, you guide multiple projects and are less focused. I really enjoyed this focus which I had during my PhD.

My biggest hurdle was welcoming my first child during my PhD

What did you learn during your PhD that proved useful later on?

To put things in perspective. Your job is just your job, it is not your life. This is something I really learned during my PhD.

By going through hard times, you learn that there are still things besides work. If you don't do that, you will break.

Which steps did you take to be where you are now? Which hurdles did you encounter?

At the end of my PhD, I didn't really know what I wanted to do next. I had no idea which position I would like to have in a company. Because I loved what I was doing, I decided to continue and pursue a postdoc. However, I figured that a postdoc is only for a couple of years and then I would be in a similar situation: industry or professorship. I never desired to become a professor, but I decided that if I did a postdoc anyway, I better should guarantee that option. Therefore, I always listened carefully to the advice that people gave me. They advised me, for example, to be abroad for at least 6 months and have a number of papers without my PhD supervisor. Therefore, I made a list of what I needed to achieve and did it. It is important to surround yourself with the right people that can advise you.

My biggest hurdle was welcoming my first child during my PhD. Finding a postdoc abroad with a child was not

easy. The second hardest thing was finding a professorship. You have to be strategic and find out why you are more needed or important than other people. My boss once said: 'you will only make it if they need you'.

Therefore, you need to make yourself needed and find what makes you special. Besides finding a specific field, I also invested in outreach. I did this because I think that scientific communication is important, but also because not many women were doing this at the time. Therefore, my name got known higher up.

By going through hard times, you learn that there are still things besides work

What would you advice young women who want to start a family during their PhD?

Be stubborn. Know that it is your right and just do it. It is important to find the right people who support you and who you can fall back on.

The biggest problem is that you are out of the job for a long time. Women can be out for 6 months or longer, while men are back after two weeks. I had to find a way to limit this. That is why I kept working until right before the delivery and resumed work as soon as I could. I joined meetings while carrying the baby on my chest.

However, I also started working from home immediately after the delivery. This, I would not advise. It takes a serious toll on you. It is also the responsibility of the university to come up with solutions. At VUB we now achieved that substitutes can be hired. This is an important step to achieve gender equality.

Which advice can you give to us PhD students?

It is important to become independent. A good PhD student can come up with their experiments themselves. Take initiatives. And importantly, keep having a life outside of the lab.



PhD confessions

Because we've all been there...

Optical illusion

One day I asked Gilles Hageman for the professional camera because I needed to take some pictures of my samples after a staining. After receiving the camera, I immediately realized that the lens was the wrong one. I ran back to him, but he was not in the office anymore. I started frenetically to look for him. In the meantime, my samples were degrading. I kept searching him for more than one hour. I was starting to panic and I was thinking "what can I do if I don't find him?!"

Suddenly, I see him in the corridor: "HEY! HEY!" I started to scream and to run towards him. He turned around. It was Peter Carmeliet. Oh No. I froze. I smiled. I ran away.

Anonymous

You have a confession to make?

Mail us at Optimist.PHD@outlook.com

Fire

A few years ago, we only had one oven in our lab. Therefore, the oven was both used to autoclave plastic, on 95°C, and glass, on 200°C. To make it even more complicated, when you want to change temperature you have to press on two buttons to confirm. As you can guess, I forgot this last step and it only went down hill from there.

On a busy day, I stocked the oven full with boxes filled with tips and lowered the temperature to 95°C (or that is what I thought). 3 hours later, I went back to the oven, only to see melted boxes that were stuck to the grid. In order to clean the oven, we could not come up with a better idea than putting it back on for a little while. However, the day was so hectic that I forgot about it. 60 min later ... I opened the oven and WOIOFFFF. The plastic was melted so badly that when air entered, huge flames were formed.

Not long after this, the whole lab was watching a burning oven... No one really knew what to do! So, we watched and discussed how to fix it. Maybe a wet towel? Oh no, that won't work because the flames are reaching the ceiling. Hmm, maybe we can find a fire extinguisher. We eventually found one in the hallway (although afterwards we realized that the lab is full of them). Should we do it? Because when we break the seal, we need to fill in a report.



While looking at the flames that increased in intensity, we decided that we had no option. It took us three attempts until the fire was extinguished!

As a result, the whole room filled with smoke. Black, thick smoke. We could barely see! This triggered the smoke detector, which led to the evacuation of the whole building. We closed the door, left the lab and joined the other groups outside, who were complaining that it is probably a false alarm again (oops!).

When we guided the firemen to the room, there was – to our big surprise – nothing to see. No smoke, no flames, no burned spots. Nothing! Just some little plastic pieces in the oven. All the smoke had apparently disappeared through the ventilation. This made it quite awkward, as we had been telling how big the fire was.

And amazingly, all these years later, the oven still works perfectly fine. Although, we have one oven now for plastic and one for glass :).

Anonymous

PhD survival tips

HOW TO MAKE THE MOST OUT OF A CONFERENCE

Attending conferences is part of the PhD experience. We often attend conferences and come back saying “It went by so fast and it didn’t sink in until I came home”. It is normal to feel overwhelmed, jet lagged and stressed. In addition, you may have to present your work on stage for the first time. Well you are not ALONE!

A big part of science, is scientific communication. It is not just enough that you know your work, but it is important to share your work with those in your field and also the general public. Just like the rest of the PhD, attending conferences is a challenge. If you are shy, use it as an opportunity to become more social, if you are negative about your data, this will force you to see the positives in your work, if you scared of public speaking, use it an opportunity to practice for your defence and so on! Conferences should be enjoyed and experienced to their fullest.

Here are some tips to help you make the most of this experience:

1. It may sound obvious but **PREPARE** in advance. Most posters are created a week before. We know from experience that poster sizes, font and images change with each conference. You may not spot the flaw until it’s printed, magnified and delivered to you the day before. Be prepared so that at least you don’t have any embarrassing typos. If you are going for a talk, practice, practice, practice. You may think your talk makes sense but you will be surprised once you ask honest colleagues what they really understood.

2. READ the programme beforehand. Put a mark on the critical posters/talks you need to attend. Time flies and you won’t have any me time, so do as much preparation beforehand. Don’t assume they will give you a

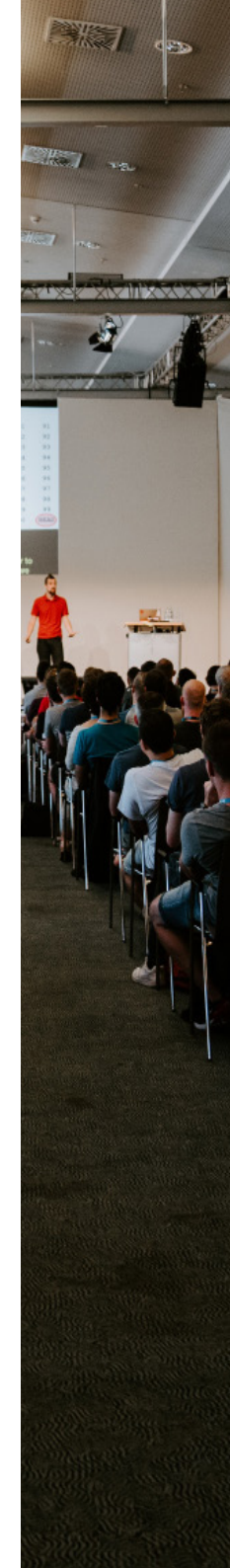
3. DON’T TAKE YOURSELF SO SERIOUSLY. You are there to learn, discuss science and improve on your research methods. You are not there to show off only what went right. We all know that science throws many curveballs, so any story presented too shiny and without flaws is actually difficult to believe. There are imperfections in your work, don’t hide them, discuss them openly and honestly so that science can advance this way. If you are there solely to present a “perfect” finished story, the pressure will hinder your conference experience. Even some of the greatest scientists get nervous on stage.

4. GET SOME FRESH AIR

5. ATTEND most if not all of the talks. Don’t not attend a talk just because you don’t directly benefit from it. You never know, that talk for example about “biomarkers” may stimulate you to think about your own research differently. Serendipity is a thing, adjacent fields shed insight on your own work.

6. BE SOCIAL, not just for the purpose of selfish networking but also for fun! The community for your research is smaller than you think. The network you interact with, you’ll meet them again. That last drink at the bar where grad students huddle up to share experiences of grad school life may just ease that anxiety and put a smile on your face. In the end this experience will come to an end and you will have memories of great science and hopefully new Facebook and LinkedIn friendships. Get to know your roommate, learn about the broader scope of projects and labs out there, use it as an opportunity to get to know the international community, use it at as opportunity to laugh with your peers at PhD life.

* check out 'How to create a better research poster in less time' (including templates) on YouTube



Fun things to do besides your PhD

28 Nov - 18 Jan

Monet - The Immersive Experience (Brussels)

Sound and light show of 300 sketches and paintings.
www.expo-monet.be

11 Dec - 22 Dec

Christmas market (Leuven)

Enjoy the winter at the Christmas market, which is back at the Ladeuzeplein and Herbert Hooverplein.
Free entrance.



Every month

Afterwork Party - Club Royale

Afterwork @ De Hoorn (Leuven)

Get your dancing shoes on every second Thursday of the month for an afterwork party in the machine room of an old brewery.
www.clubroyaleafterwork.be

Our Recommended brunch places in Leuven

Make sure to book in advance

Bar Stan

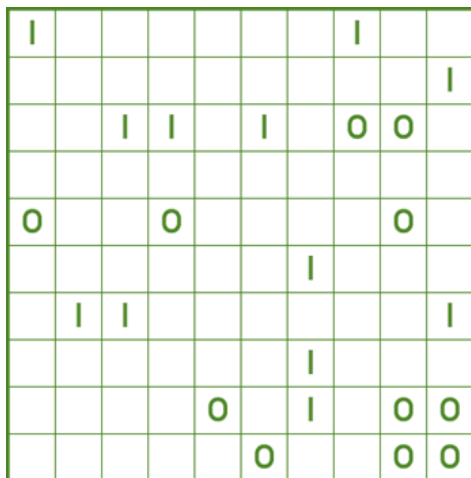
Nirvana Brunch

Nosh

The optimist

Binary Puzzle

You must complete this binairo, binary puzzle or takuzu in such a way that there are as many ones as zeros in each row and column. If the grid consists of ten squares, you must enter a 1 five times and a 0 five times. You may not put more than two equal numbers next to each other. Identical rows or columns are not allowed.



HEY, IT'S OKAY TO...

Science is serious business,
but we may share similar frustrations



... be too embarrassed to send us your confessions

... schedule a meeting with a core facility, to only realise you should have gone to another core facility. Oops!

... request acknowledgement for work you contributed to

... steal a Nespresso capsule when a guest is in town

... disagree with your boss (just be polite)

... just read this section of The Optimist (we see you)

... dislike some of our opinions here at The Optimist (we want to hear yours)

... to work from home in pj's from bed (*subject to your labs rules)

... attend the SAB dinner just for the Faculty Club wine

... fart in the cell culture room and blame it on media waste

... not know where to pour waste (but... figure it out please! Don't kill fishies)

... realise you don't want to stay in academia, there is no shame in what you do.
It's YOUR life!

... realise you want to stay in academia but feel like you're not good enough

... hate public meet ups like happy hour. You don't have to be social, just be yourself!

... bring back foreign candy from your holidays for the lab that tastes like feet.
It's the gesture that matters!

... accidentally do 4 washes instead of 3

Hey it's okay to not feel okay!

To highlight **World mental health day 2019**, we would just like to end this confession section this time by saying it's ok to not feel ok. No two PhD experiences are the same but there will be an overlap of problems we all share. We encourage you to find yourself a nice network of supportive people you can rely on.

Thank you

Opinion article
Marika Marino

PI interview
Sandrine Thuret

Life after PhD
Damaya Laoui

PhD confessions
Anonymous, Anonymoos

Fun things to do
Hava Izci

Hey it's okay
You, for inspiring us

Pictures
Unsplash.com

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VIBes in Biosciences

INTERNATIONAL SYMPOSIUM FOR PHD STUDENTS IN LIFE SCIENCES

11-13 MARCH 2020, LEUVEN, BELGIUM

Interesting bits:

A PhD committee is currently being set up, with the aim to connect the PhDs of our many groups at the whole VIB.

Stay tuned to hear more about it in our 2020 March issue!

We want to wish a Merry Christmas and a Happy New Year to you and your loved ones.

See you again in 2020!



LEUVEN BRAIN INSTITUTE