



# GGNB *Times*



## RESEARCH

QUIZ:

*“Which type  
of researcher  
are you”*

### RESEARCH

*What makes a good  
supervisor?*

### ALUMNI

*Staying in Academia  
or leaving for R&D?  
How about neither!*

### GÖTTINGEN

*Dinner Hopping  
2018*

### RESEARCH

*The controversy  
about Open Science  
and Open Access*

### ALUMNI

*Mentoring in  
Göttingen*

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## Photo contest

**Dear GGNB Times reader,**

This year's issue is unique in several aspects. Our editorial team consisted of six motivated women: Elisa Buchberger, Kristin Kaduk, Jenifer Rachel, Ting-Hsuan Lu, Hannah Elisa Krawczyk and Jasmin Gömann. The small size of the team led to the decision to not determine an editor-in-chief, which made all participants equally involved and responsible for building up the issue.

The word 'teamwork' was taken literally and working on this issue impressively demonstrates - not only to us but hopefully also to our readers - how important good communication, supporting and helping each other is in achieving something big. Teamwork was not only essential in creating the newsletter but also quickly became the leitmotif of this year's GGNB Times issue. This is also reflected in the choice of articles surrounding the subjects mentoring, career options and mental health. They underline the fact that seeking advice and support from outside, both in work and in private life, is essential for all of us. Life as a PhD student is sometimes hard enough and going through struggles together is easier than alone!

We also want to highlight the fun parts that come along with being part of the GGNB community here in Göttingen. The GGNB dinner hopping was organised already for the second time this year, and we asked organisers and participants how they experienced this special event. Additionally, we want to recapitulate with you some other events that were organised from students for students, including retreats of the GGNB programmes and the WoCaNet symposium. Finally, we are especially happy to present you the winners of this year's GGNB Times photo contest!

Sticking to the issue's leitmotif, we also wanted you - the readers - to become part of our team. Therefore, we asked you to participate in a survey and share your opinions on the GGNB Times and its articles with us. Hopefully, we were able to include your ideas, suggestions and wishes! Some of your comments can be found at the end of this issue and we want to thank all participants of the survey for your help!

We would also like to thank the GGNB Office, mainly Kirsten Pöhlker and Steffen Burkhardt, for their constant support in creating the GGNB Times Newsletter. If you have something to say, don't hesitate to contribute to the next issue in 2020 and be a part of the next GGNB Times team.

We hope you enjoy our newsletter!

**Your 2019 editorial board of the GGNB Times**



Front row (left to right): Ting-Hsuan Lu, Jenifer Rachel and Jasmin Gömann,  
Back row: Elisa Buchberger, Kristin Kaduk and Elisa Krawczyk © Philipp Niemeyer

# Welcome

# Obituary: Prof. Dr. Michael Hörner

Sandra Drube



Prof. Dr. Michael Hörner

It was in 2004 when I first met Michael – at that time still Prof. Hörner for me – when we were on the search for a new scientific coordinator for our MSc/PhD/MD-PhD program, the International Max Planck Research School Neurosciences. I had joined the IMPRS Neurosciences office in 2003, and I only knew Michael from the picture in the yearbook; he was already a part of our faculty since the start of the program, but worked as a guest professor and representative of the DAAD German Center at the Hong Kong University of Science & Technology. One could say, in a way, that I chose my new boss (more or less) by myself. What followed were more than 13 years of teamwork and dedication to generations of Neuroscience students, a lot of hard work, and also a lot of fun!

Michael started his career in 1989, with his dissertation in the Department of Cellular Biology at the Georg-August University, Göttingen. He spent some time in the US as a research fellow, before he became (assistant and later associate) professor at the Institute for Zoology and Anthropology (1990-2002). Since 2005, Michael was the coordinator of the IMPRS Neurosciences, and since 2009 the speaker of the GGNB program Molecular Physiology of the Brain. At the European Neuroscience Institute Göttingen, Michael ran the teaching lab and regularly offered an extended methods course in electrophysiology. Michael was always close to his students, a cherished mentor who had an open ear for the students' questions or worries, and a friend to all.

Unfortunately, in October 2018, Michael lost his fight against a malicious disease after long suffering. While we are deeply saddened by this tragic loss, we are comforted by the cherished memories of Michael that we share, with the entire neuroscientific community of Göttingen. We will keep you in our hearts, Michael!

Sandra Drube

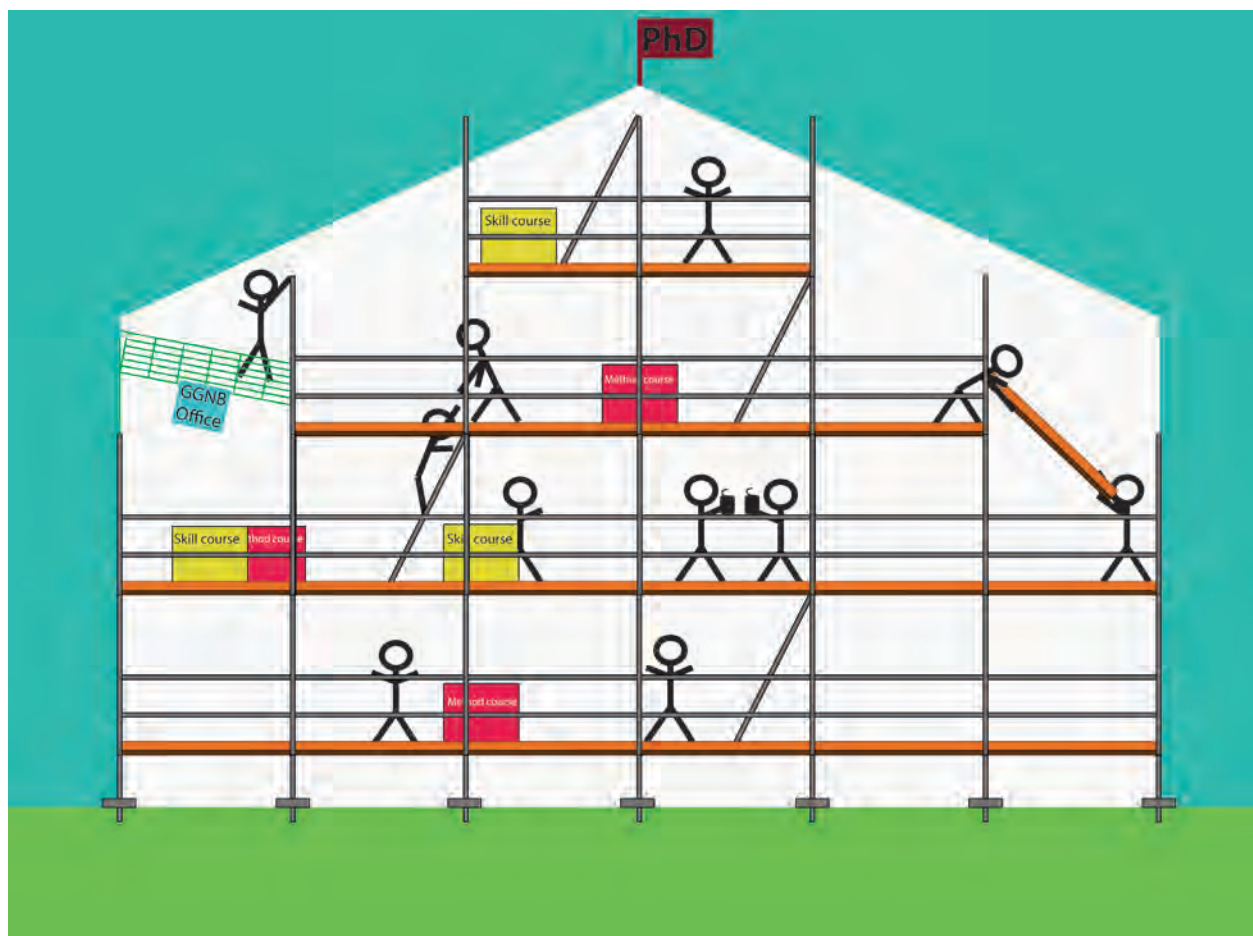
Administrative Coordinator

International Max Plank Research School Neurosciences

GGNB

# You are new in the GGNB? This is how it works!

Katharina Vollheyde



The GGNB scaffolding ©Katharina Vollheyde

The GGNB is comparable with a building scaffolding that guides and supports the students while climbing up the grad school building towards the PhD on the rooftop. It provides rules and regulations, assuring a predictable, transparent and secure way through the PhD. The different levels of the scaffolding are full of various method courses for scientific - and professional skills courses for personal and professional development. These courses provide additional qualification beyond everyday education in the lab. Climbing up the scaffolding is tied to certain safety rules: “Do not climb longer than 4 years!”, “Keep track of your credits!” and “Don’t

miss the annual safety TAC meeting checks!”. The “safety net” – the GGNB Office – helps – when needed – to remind PhD students not to miss the safety TAC meeting checks or to prepare in time for your thesis submission. Being part of the graduate center provides the opportunity to exchange with other PhD students on the way to the top during different method and professional skills courses and during student-organized events. It is much easier and also more fun to climb the scaffolding with other people inspiring you with scientific discussions, helping you with bureaucracy problems or by realizing that you are not the only person who is a bit afraid of

heights and hesitates to climb to the next upper level. Regular joint coffee breaks on the way are a good chance to refuel the body with new energy and motivation, but also with new ideas for your project. Another advantage of the GGNB scaffolding is its flexibility. PhD students are allowed, and also highly encouraged, to extend, rearrange and shape their journey towards the top. The GGNB provides components and devices in the form of financial and organizational help for student-organized conferences, retreats and networking events.

# Recent changes to the GGNB

Elisa Buchberger

Even though all information about regulations and rules concerning your PhD in the GGNB programs can be found on the GGNB website, some myths about certain rules persist and wander around between students and also PIs. First, we would like to mention again the GGNB Internal webpage, which is often forgotten, but covers all relevant information concerning your journey to a doctoral degree within GGNB. Make sure to always use the forms and handouts here and do not use Google to search for them – you will inevitably find old, outdated documents there!

Second, always check the RerNat-O Doctoral Degree Regulations - the official examination regulations of GAUSS. Nevertheless, we want to answer here a few questions that came up again and again in the last few months.



## Can I still apply for a Bridging Fund at the GGNB when the DFG funding is running out?

YES - bridging funds are still available, though not as many as before. Be aware that there are four deadlines for applications (31 March, 30 June, 30 September, 31 December). The decision will be taken by a committee of the

GGNB Board approximately two weeks after the deadlines.

Please note that the GGNB budget only covers one calendar year - in 2019, decisions on bridging funds for 2020 cannot be made before early/mid-December.

## Who can be in my examination board?

The RerNat-O §11 lists how to compose your extended committee:

The two reviewers and at least one member of the extended thesis committee (TAC) have to be members with examiner rights in your PhD program. All other members of the extended thesis committee have to be full members of any other GAUSS program.

If one of your TAC members does not have full examiner rights yet, a single examiner status can be applied for. Please be aware that the members four to six of the extended committee have to be full members in a GAUSS program (i.e. for them, no single examiner status can be applied for).

## How long does it take until a Professor/PI is a GGNB member and can be part of the Thesis Committee?

How long it takes after the application for admission to GGNB and examiner status to be accepted cannot be answered generally. This depends on a number of factors, for instance the qualifications and cur-

rent position of the faculty member.



Members of one of the Mat-Nat faculties may sometimes be admitted to GGNB fairly quickly and therefore get their examiner rights quickly as well. For others, it may take a while, depending on the timing of the meetings of the boards involved (GGNB, GAUSS).

## How to get a summa cum laude - Is it true that you have to publish at least two first author papers to get summa cum laude?

First of all, it is noteworthy to say that you as a student cannot 'apply' for a summa cum laude.

Against some misconceptions, there are no rules regarding how many papers have to be published at the time of your thesis submission/defense. Nonetheless, the Scientific Advisors Board of GGNB recommends that at least one first author paper should have been published or accepted. But - it is entirely up to the reviewers of the doctoral thesis to decide if the thesis merits a summa, based on their own criteria and experience (which may or may not include a published/accepted paper).

**Different types of theses: monographic, manuscript based, cumulative – got a bit confused? What are the requirements or restrictions, and what type of publication can be used in the thesis?**

With the new doctoral guidelines 2018, there has been a change about in which format you can submit your thesis. The format of a cumulative thesis no longer exists - you write either a monograph or a chapter-based thesis. The 'status' of the manuscripts/papers you use as chapters (in preparation, submitted, in revision, accepted, published) does not matter. Since even first author papers are mostly not the work of a single researcher, you have to clearly indicate what your own contribution to each chapter is. If you



chose to write a chapter-based thesis, there is no need to apply for it or inform the GGNB beforehand.

Most important: You have to use your original research in the thesis, regardless of the format. This means that reviews of the current state of the art in your field cannot be included as a chapter in your chapter-based thesis.

**Can the publication of the thesis be postponed? How long?**

In order to receive your academic title, you have to publish your thesis in the SUB (Niedersächsische Staats- und Universitätsbibliothek).

In case some data still need to be kept back to prepare a paper, you can apply for a restricted online publication, where only an abstract will be published online for one year after the thesis defense. You have to hand in a well-founded application for this though, on the day of your thesis submission!

Important: You have to publish your thesis in the SUB Göttingen within one year after your defense. Please note that you do not get a reminder of when you have to publish! In case you miss the deadline, you will lose all rights to your degree (RerNat-O §21.6)!

In exceptional cases, you can apply for an extension of the publication deadline – but you have to apply in time (see above).

Be aware that if you published parts of your thesis in a journal, you will first have to settle potential copyright issues with the publishers of the respective paper. Please read the information on the eDiss webpage of the SUB Göttingen.

**Can a PI refuse to publish my PhD thesis in the SUB after one year, and if yes – what happens then?**

Once you have done all the revisions required by the reviewers (and other members of the examination board), the supervisor has to sign the revision certificate. If he or she refuses, please contact the GGNB Office and/or the program speaker.

**Credits – probably clear to all students, but we will still list them again.**

Overall, you will need 20 credits by the end of your PhD in order to graduate. We list below which credits you will have to gather.

The attendance of the seminar 'Good Scientific Practice' is mandatory for all students. If you haven't done it in the beginning of your doctoral studies (the time point when it makes most sense), you have to attend it during your PhD, and definitely before your thesis submission. In other words: you cannot graduate without having taken part!

**Required credits:**

20 in total, thereof at least

5 credits for seminars, lectures and colloquia

2 credits for methods courses

4 credits for teaching (8 credits if you're affiliated with the faculty of physics or chemistry)

2 credits for scientific meetings

1 credit for key competences

Additionally: at least 3 TAC meetings are mandatory (4 in case of extension beyond 3.5 years)!

**And first and foremost: Check GGNB Internal! For any remaining questions contact your GGNB or IMPRS Office.**

# The GGNB Representatives

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## Katharina Vollheyde & Inês C. Brás

### Katharina Vollheyde

I am Katharina and I am a third year PhD student in the Department for Plant Biochemistry. This is my second year as GGNB Board student representative.

It is Inês' and my task to represent the student's interests in the quarterly board meetings and since this year also in the newly established GGNB Budget Commission, which decides on bridging fund applications. The GGNB Board is the administrative organ of our graduate center, which makes decisions pertinent to our studies in GGNB. During the last 1.5 years I had the chance to learn and understand how the GGNB is operating and how the board makes their decisions. I was involved in several decision processes affecting all or

individual GGNB students. During these procedures I always experienced the board as being interested in students' opinions and open for suggestions from the students' side.

Apart from my work as board student representative, I am member of a working group that is organizing a GGNB-wide survey aiming at assessing PhD satisfaction and supervision. Additionally, I am involved in the organization of the GGNB Dinner Hopping.

Since Inês and I will finish our PhDs next year, we will not run as student representatives in 2020. Therefore, the GGNB is looking for new candidates for the board student representative election in December. We want to encourage everybody who is interested in this job to run as a candidate. It is not

important that you already have experiences as student representative, but rather, that you like to take responsibilities and most importantly, that you are open and motivated to be actively engaged in the community.



Katharina Vollheyde © Jasmin Gömann

### Inês C. Brás

My name is Inês Brás, I am from Portugal, and currently I am a PhD



Inês C Brás © Inês C Brás

student in the Molecular Physiology of the Brain program.

On the Science Day and the 10th GGNB anniversary, I had the opportunity to listen to talks of two GGNB alumni. From there I decided that I wanted to be part of the GGNB, not only as a student but also as someone who can be a direct connection between the students and the board, to continue providing the great experiences that were shared on that day. As student representatives, we have the full view of the graduate center organization (all the bureaucratic processes) and we represent the student opinions in the board. This is a very important

function because we try to improve the learning experiences for current and future students and solve issues that might negatively affect their path. To do so, the communication between us and the students is vital, either via input from the students themselves, or via contacting them in certain situations.

Whenever you feel the need to clarify a question or you have problems that you cannot solve on your own, please feel free to contact one of the student representatives (or the GGNB Office). Our function is to help you and to represent your best interests in the GGNB Board.



# Happy Birthday GGNB!

Jasmin Gömann

Last year was a big year for the GGNB. The Graduate Centre looked back onto 10 successful years with over 1100 graduates from a current total of 15 different PhD programs. The anniversary was celebrated together with the Science Day on the 16th of November and the event was held at the Wilhelmsplatz offering the old Mensa and the Aula as festive sets for the

Koutsoumparis in the category Neurosciences, Avril von Hoyningen-Huene in the category Molecular Biosciences and Biophysics and Andrea Cordes in the category Biophysics and Physics of Complex System. In the afternoon, Patrick Cramer welcomed the conference in the Aula at the Wilhelmsplatz and awarded the winners of the Science Slam and the poster session. The

Christoph Limbach represented the DFG and Prof. Dr. Dirk Görlich gave some honorary words in the name of the MPG. The students' point of view was presented by the GGNB student representatives Katharina Vollheyde and Jason Khadka who compared the GGNB to a building scaffolding providing guidance, security but also space for the students to implement own ideas during their PhD journey (see article "You are new in the GGNB? This is how it works!" on page 5). Finally, the two alumni Prof. Dr. Neva Caliskan and Dr. Benjamin Wilhelm talked about their experiences in the GGNB during their study time and about how these experiences influenced and shaped their future career paths. The anniversary ended with a reception in the old Mensa, giving all participants the opportunity for exchange. As an unofficial continuation of the Science Day, a student-organized GGNB Dinner Hopping took place the following day. You can find a more detailed article about the GGNB Dinner Hopping in this issue.

keynote speaker of the day was Prof. Dr. Botond Roska from the Institute of Molecular and Clinical Ophthalmology in Basel and he continued with his impressi-



The participants of Science Slam © Kirsten Pöhlker

different points of the program. The celebration was opened with the first GGNB organized Science Slam. During the Slam Shruti Chhetri, Ninadini Sharma, Martin Reinhardt, Jason Khadka and Shoba Kapoor explained in vivid and entertaining presentations their research to a broad audience in the hall of the old Mensa. In the end, Jason Khadka convinced the audience with his talk about how he studies plant development without actually working with plants and was declared the winner of the Science Slam. The program moved on with the poster session in which selected GGNB students presented their work. The three winners of the poster sessions were Anastasios

ve talk about the first steps in vision: cell types, circuits, and repair. After a coffee break, the anniversary ceremony started with a series of laudations honoring the achievements of the GGNB within the ten years of its existence. The short talks were presented from people having different relations to the GGNB. Prof. Dr. Ulf Diedrichsen acknowledged the GGNB from the University of Göttingen. Dr.



The winners of Poster Prize and Science Slam © Gabriele Bartolomaeus

# Towards a Dialogue - WoCaNet 2019

Elisa Buchberger

On March 18th and 19th 2019, the Women's Career and Networks symposium took place at the Max Planck Institute for Biophysical Chemistry (MPI-BPC), already for the sixth time. With the collaborative effort of young PhDs and postdocs from the University of Goettingen, the MPI-BPC, the German Primate Center and the UMG, a highly successful conference was organized, with the motto "Towards a Dialogue". More than 200 people joined talks and workshops which aimed to connect students with successful professionals from various fields, including academia but also the private sector. Highlights were the talks of the Nobel laureate Christiane Nüsslein-Vollhard, and Prof. Sheila E. Lukehart, giving insights into their long and eventful scientific careers. How to successfully move from academia towards a career in industry was impressively shown with the talks from Dr. Sybil Wong, former COO of Sparrho, based in London, and Dr. Birgit Wirtz, Associate Director at Procter and Gamble in Frankfurt. Within the symposium two workshops were offered that aimed to provide valuable soft skills and tools for future leaders. Dr. Alexander Schiller offered a workshop dealing with leadership skills in diverse teams (we also feature an interview with Dr. Alexander Schiller in this issue on page 29). During the second workshop, Storytelling for Scientists, Dr. Karin Bodewits, founder and trainer at NaturalScience.Careers,

founder of ScienceMums, speaker and book author, and Simon Hauser, trainer at NaturalScience.Careers, moderator of science slams and founder of Hauser Kommunikation, talked about how to successfully communicate your research by creating a fascinating science story. Apart from talks and interactive sessions, the WoCaNet team organized a panel discussion on the topic 'Diversity in Science: A Utopia?', which was open to all. There, questions about diversity in research groups, inclusion, integration and discrimination were discussed together with the audience. A number of selected students had the chance to join the networking dinner at the end of the symposium, offering them the unique opportunity to further talk about the topics raised during the previous sessions of the conference.

If you couldn't attend the symposium or didn't follow the #WoCaNet thread on Twitter, here are a few inspiring words from the speakers:

*'If you are in a mentoring position, please nurture their imagination, to set them up for success.'*  
(Dr. Sybil Wong)

*'Go where your gut tells you, don't do something that you don't feel good about'* (Dr. Sybil Wong)

*'Science is also fun!'* (Dr. Francesca Arici)

*'If you make a mistake, feel bad about it for two minutes, then move on and focus on the future.'*  
(Dr. Birgit Wirtz)

*'A supervisor is in charge of you, a mentor is there for you.'*  
(Dr. Sheila Lukehart)

*'If I give you advice, you don't have to take it. When you run into a problem, don't jump into thinking that it's discrimination. Research is hard for everyone.'* (Prof. Dr. Christiane Nüsslein-Vollhard)

*'Stay fascinated in your work ... Have the backbone to choose your own path.'* (Prof. Dr. Ulrike Beisiegel)



The group photo of WOCANET 2019 © Wocanet 2019

# The Retreats of the GGNB Programs

Compiled by Jasmin Gömann

**The GGNB PhD programs were again very busy since our last issue came out. Find the summaries of the latest program retreats on the next pages, which were kindly provided by the student representatives of the individual programs.**

## •Retreat PBCS program

Our 2018 PhD retreat of the Physics of Biological and Complex Systems took place in Vallendar, a scenic town on the bank of the river Rhine. During the 2.5 days of the retreat, we had the opportunity to get to know each other on a professional and personal level. A new focus of the retreat that proved to be a huge success were the debate sessions, designed to exercise and improve our literature research, teamwork and discussion skills. Another highlight of the retreat was the Career development seminar held by Prof. Alexander Schiller. In the evening, we relaxed over a barbecue, board games and a Cuban salsa course taught by PBCS students.

## •Retreat Molecular Physiology of the Brain program

In June 2018 the doctoral researchers of the GGNB program „Molecular Physiology of the Brain“ took off to Berlin for the annual weekend retreat. We had productive and exhausting two days filled with presentations, scientific discussions and networking. Afterwards, there was some time left to learn about the history of Germany's capital

through sightseeing, which phased out with cold drinks at the Spree during sunset. Some night owls even found the energy to continue and dive into Berlin's nightlife! Next early morning, efficient as we are and curious by nature, we spent the last two hours, before the train went back to Göttingen, in the central Museum „Körperwelten“, where the researchers learned about human anatomy. Allover, it was a successful and diverse trip that will not be forgotten!

## •Retreat Microbiology and Biochemistry program

The retreat of the Microbiology and Biochemistry program took place in October 2018. It has been the first retreat after a few years of pause so it was a great opportunity for all participants to meet the other students from the program. We went to the zoo in Hanover, which is providing conference rooms located in different parts of the zoo. Every student gave a presentation about their research topic to give an insight into his or her studies. Between the talks we had time to discover the zoo. The first evening we went out for a Bowling session. On the second day we had three GGNB alumni as our guests who gave interesting and informative talks about their career paths. We finished our retreat with a great conference dinner organized by the zoo giving us the last opportunity for a relaxed get-together.

## •Retreat Sensory and Motor Neuroscience program and Cellular Mechanisms of Sensory Processes program

The 2018 joint retreat of the Sensory and Motor Neuroscience (SMN) program and the Collaborative Research Center 889 “Cellular Mechanisms of Sensory Processing” (SFB 889) program took place at the Max Planck Institute for Experimental Medicine (MPIem) in Göttingen. The goal of this annual retreat is to give PhD students a chance to present their work, exchange ideas and socialize in a stimulating environment. The active participation of students, peers and project leaders from different backgrounds helped students to see their data in a different light and broaden their horizon. After a day filled with diverse and interesting presentations, we enjoyed a dinner with a traditional German buffet. Like every year, the retreat was a great success and we are looking forward to the next one!

## •Retreat Systems Neuroscience program

The Systems Neuroscience program had its first retreat on 22-23 September 2018 in Bad Salzdetfurth. 12 PhD students and 2 PIs spent two days full of scientific talks and socializing. As our program is very diverse, we all learned a lot from each other about worms, mice, monkeys and

humans. In the evening we taught our international students German bowling (Kegeln). We enjoyed a short, though intense and very fun weekend.

### •Retreat Biomolecules program and Molecular Biology of Cells program

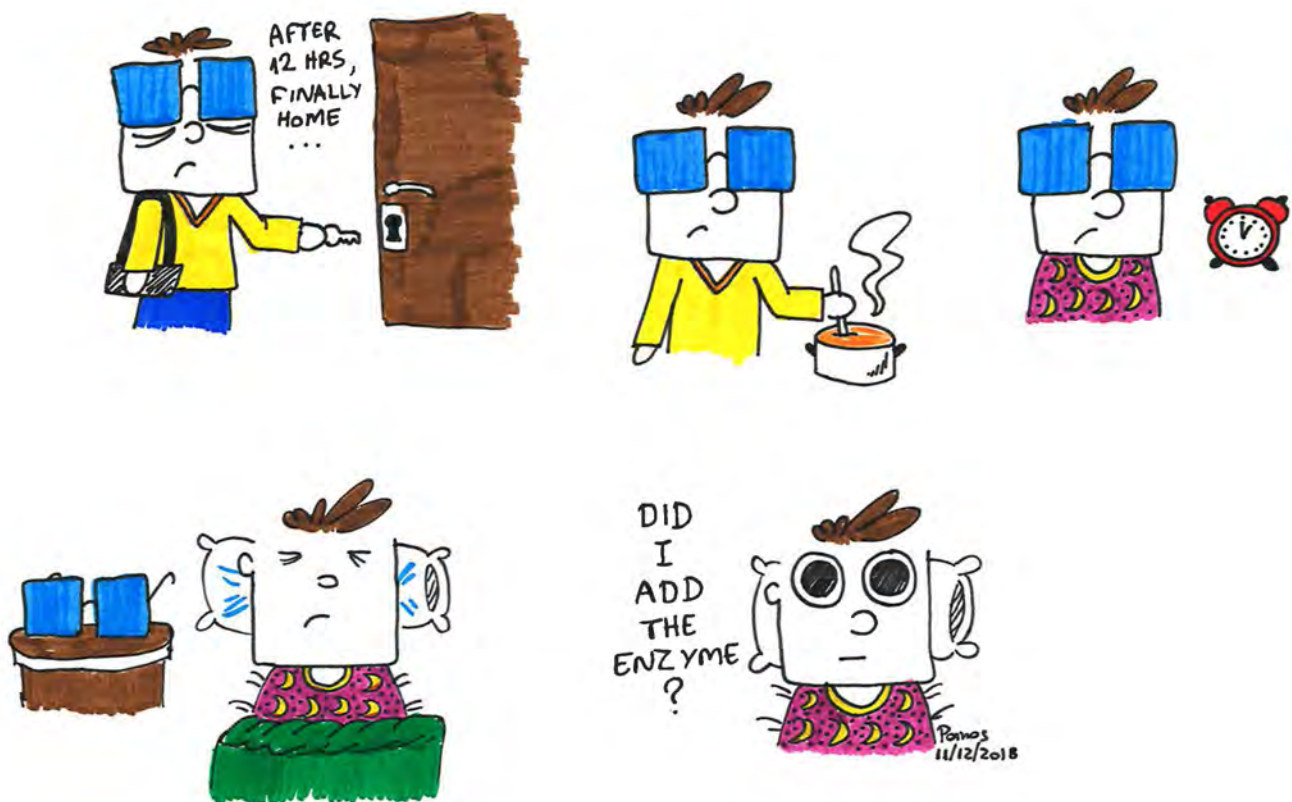
To enable cross-disciplinary interactions and discussions at the very beginning of their careers, the PhD students of the doctoral programs Biomolecules and Molecular Biology of Cells organized a joint retreat to Volpriehausen in September 2018. On the first day, the students were given the opportunity to present and discuss their research among their peers in 10-20 minutes oral presentations to get constructive input and pave the way for possible collaborations. The first day was rounded off with a highly competitive and physically straining soap box race with self-made race cars where contestants were judged

on creativity, ability to work in a team, and perseverance. After the successful soap box race, the evening was spent socializing with a nice barbecue. On the second day, more presentations were given by the students followed by the afternoon career-talk workshop, for which alumni, working in industry, were invited to talk about their experiences outside academia.

### •Retreat IMPRS for Molecular Biology program

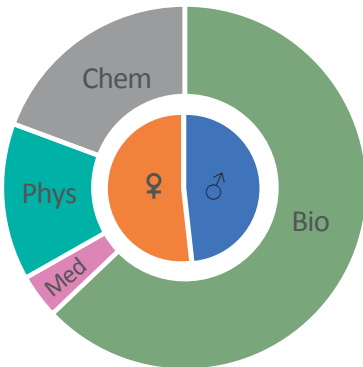
Our annual PhD retreat took place between 25th and 27th of April 2019 in Leipzig. The first two days were packed with diverse talks and poster presentations where our graduate students presented their research projects accompanied by heated scientific discussions. After closing the scientific part on the second day, we transitioned to a cultural excursion by visiting the Leipzig Panometer and the forum of cont-

emporary history. We then enjoyed a city tour through the old town where we learned about the history of Leipzig and its main landmarks. On the last day, we got a chance to hear career talks from several former MolBio students who established their careers both inside and outside academia. We learned about the perks and challenges of each role and how each speaker steered their personal journey. A great part was the speed-dating where we got the chance to discuss our questions with our alumni personally. All in all, our Leipzig retreat was a great mix of science, networking, and career development. Students from different stages of PhD enjoyed the chance to exchange ideas and connect to our alumni. Next year we will celebrate the 20th anniversary of the IMPRS by having a joint retreat with the Neuroscience program. We are all looking forward to it!

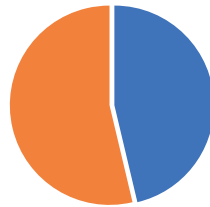


# The GGNB in Numbers

**Faculty Affiliation**  
(in total 512 students enrolled)

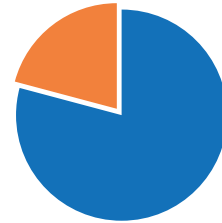


**Country of Origin**  
(over 50 different countries)



■ Germany ■ Other

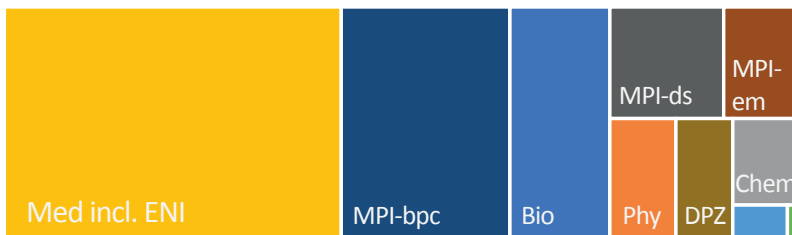
**PhD vs Dr. rer. nat.**  
(degrees awarded: 1199)



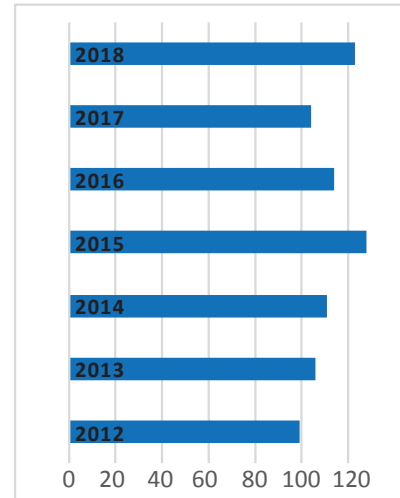
■ Dr. rer. nat. ■ PhD

**Institutional Affiliation of Hosting Lab**

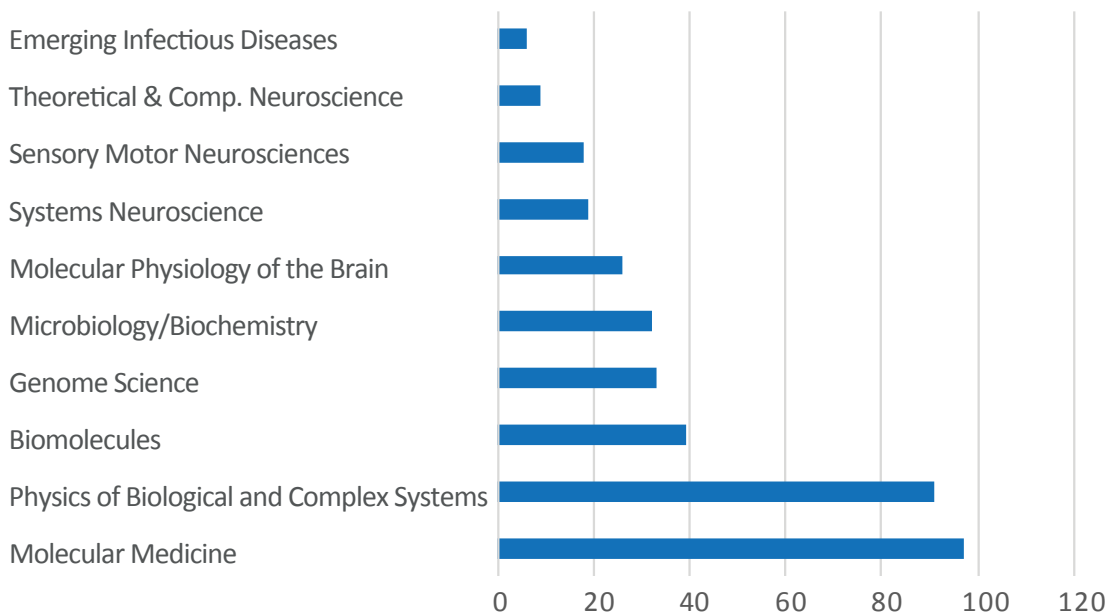
- Biology
- Physics
- Chemistry
- Med incl. ENI
- Forestry
- Agriculture
- MPI-bpc
- MPI-em
- MPI-ds
- DPZ



**Number of completed PhD Thesis**



**Program Affiliation of Current PhD Students**



# What makes a good supervisor?

## Interview with Prof. Dr. Argyris Papan-tonis

Ting-Hsuan Lu

There are qualities that make you a good principal investigator (PI), but not necessarily a good mentor, and vice versa. As a scientist, the focus often lies on the research and on scientific success. As a mentor, however, your foremost interest is the development and guidance of the scientists you supervise. Supervising students combines both aspects, taking care of the scientific progress but also of the people in your group. Already as PhD candidates, we start to supervise Bachelor's and Master's students, gaining our first experiences in being supervisors ourselves. Therefore, it is very important to early on reflect on your own supervising and also your mentoring abilities.

Here, we interviewed Prof. Dr. Argyris Papan-tonis, professor of translational epigenetics at the University Medical Center Göttingen (UMG), about supervision and his opinion on what makes a good or a bad mentor.

### **Prof. Papan-tonis, how would you describe your mentoring style?**

In general, my mentoring style is the style that I learned during my postdoc. I am trying to be in the lab as much as I can. I keep it very informal and my door is always open so people can come in with questions or ideas. Another

important point, is, that I allow people to take initiative. The first time I became a PI was in 2013, in Cologne. All new PIs participated

*Prof. Dr. Argyris Papan-tonis joined the University Medical Center Göttingen in 2018. He received his PhD from the National and Kapodistrian University of Athens, Greece. Later, he was a postdoctoral fellow at Oxford University. Before he joined the UMG, he was a Grad Junior Group Leader for Systems Biology at the University of Cologne. His research interest is to understand how chromatin (re) folding is spatially and temporally controlled to adapt to certain cues.*

in a workshop called 'leadership', which basically taught you how to be a mentor/PI. What stuck to my mind, is that someone said during a particular workshop: "You can rarely motivate people more than their self-motivation, but you can very easily demotivate them". So the idea is to choose students, that are inherently self-motivated and to not demotivate them during their projects. But, now the important questions is "How to not demotivate people?". First of all, you have to give students some freedom. For PhD students, it is pretty hard in the beginning, because they will make mistakes. As a supervisor, you have to explain them that making mistakes and performing experiments that are unsuccessful is part of the process.

The other thing you can do is setting an example by showing that you are enjoying what you are doing. This sometimes includes that you are willing to work during the weekend or holiday. Therefore, leading by setting an example is also part of mentoring.

But overall, learning to mentor other people goes beyond experience. The jump from being a PhD student, or a postdoc to becoming a PI, requires a broad set of skills. And this set of skills should be introduced to you from your own mentors.

### **So you learnt those skills from your supervisor when you were doing your postdoc?**

My supervisor and mentor during my postdoc time was very intelligent and he was in the lab all the time. That means that we had the chance to work with a person who was always highly motivated. But I think it is important to emphasize that all types of supervision fit for every person. On the one hand, a PI should be able to offer different mentorships to his/her students. He

or she should try to improve their strengths and work on their weaknesses. On the other hand, the PI is still just one person, trying to adapt to the people around but also setting limitations. As a supervisor, you are not going to do everything perfectly and you should not expect yourself to do so.

What I think is the last puzzle of mentoring - and many people do it in different ways - is what I call 'managing disappointment'. The thing with experimental science is, that most of the experiments are not perfect. Most of the theories in the early stage of a project are wrong, most of the papers written will not be accepted in high impact journals. Most of the grants will be rejected, most of the papers published will not be highly cited. In general, there are two ways of dealing with this. Some PIs might handle the paper writing process and let his or her people do the experiments. Others, like me, try to expose their people to the struggles and involve them in the writing process. The reason why I am doing this is, that if my students end up being a PI themselves one day, they will face disappointments sooner or later. It is better if they experience it early on, learn how to deal with it and are also prepared to decide whether they are willing to take this path. Imagine someone spending four years on his or her PhD, two years of postdoc, and only then they realize, although everything is fine with the science part, that they can not deal with the disappointments that are necessarily coming along with it. It is better to early on realize what it means to be a scientist and group leader. And this is an important part of mentoring.



© Prof. Dr. Argyris Papantoni

**Why do you think, that involving your students into the writing process is especially important and doesn't this make the process more time-consuming?**

This is what I am doing today (a bank holiday); writing a review paper with my students. If you give your PhD student a review to write, it is pretty clear that it will take them a lot of time. But it is also very clear, that if you do not allow them to participate, they will not be trained to write. Writing is very important, because nowadays science communicates a lot through writing. Also, finding your own personal style of writing is very crucial. For this, in my opinion it is worth to reduce the time they put on experiments. Having said that, I also explain to my students, whenever I give them a review to write, that it shouldn't be their main task, and that they should learn how to fit it in their experiment-free time. If you want to stay in academia, you need to find time during your workday to fit all these things in. They should realize that this is part of the life in academia. Making this clear is also part of mentoring.

**From time to time, PhD students have to supervise undergraduates. Sometimes it is hard to know, how much we should trust the students or when we should double-check a result. Have you ever faced a similar situation?**

Science is and has always been based on trust. If we completely lose trust, we have a problem. So I trust my students. The second thing, also cited from my former mentor, "If you ever make an important claim about something, show crucial pieces of your result in a paper." I am trying to remind people that other scientists are using that result as a reference, to test it and to reproduce it. So if you lie about it, there is no way that someone at some point will not find out". The only good test of science is the test of time. There are always things that you can randomly check, whether everything is in the right order or makes sense. Some experiments are though hard to check. But you will always do different experiments to make a statement. You always start with trust, but you should always be careful to make the right amount of replicates, and finding more ways to validate the data. So the proper science is well controlled, and relies on the replicative ability, first inside one lab and then between labs. But on all levels it also relies on trust.

**Do you set up any rules for your group?**

Not at all. Everyone has their own ways of managing their days. I think the judge is whether they make progress, whether they have good use of their time. When I was a postdoc, I spent a lot of time just sitting at my desk

and thinking. This is just the way I work. Thinking is part of science. If your people are frustrated or if they have a really bad day, or even a couple of bad days, just don't push it. Leave everything, go home, do something else and come back fresh.

**Can you give an example for bad mentorship behavior?**

One obvious example is if a PI gives the same project to more than one person in the group. This, in theory, could improve the productivity, because people are competing, so the project can be finished quickly. But it is clearly bad mentorship.

**So, can you summarize in one single sentence what makes up a good mentor?**

A good mentor is someone who offers the right amount of help, the right amount of time, the right dosage of supervision, keeping in mind that not everyone is like yourself and that everyone needs a different kind of mentoring.



## Encountering trouble during your PhD? – Join a coaching group for international students

Kristin Kaduk

Do you feel overloaded with work and expectations? Do you struggle with self-doubts whether you can achieve your own or your supervisor's aims? The 'Psychosoziale Beratung' (PSB) of the Studentenwerk Göttingen is offering special coaching groups for international Master and PhD students. We talked to Tracy Erwin-Grabner, a trained psychologist working for the PSB, and collected the main information for you.

It was in 2016 that Tracy Erwin-Grabner, in consultation with other PSB team members, realized a coaching group was an unmet need for international students in Göttingen. Her idea was to create a meeting point for internationals to come together and recognize that you are not alone with your

struggles and fears. The overall aim was for students to go home after a session with ideas and techniques to tackle their daily struggles in life.

Tracy is guiding all English-speaking coaching groups, which usually include 6-12 people. They meet for ten weekly sessions of one and a half hours, with each session focusing on one specific topic. Some topics that affected many students in the past were time management, procrastination, self-motivation, conflict management, balance between work & free time and cultural differences, among others. Tracy tries to keep the schedule of each session loose, which offers the opportunity to tailor them to the individual needs of the participants. The focus of the counselling group is to help each other by listening to

everybody's problems and to come up with ideas and solutions how to tackle them, in the group.

There will be a call for a new group in the Winter Semester. If you are interested, please have a look at the website or contact Tracy Erwin-Grabner ([tracy.erwin-grabner@studentenwerk-goettingen.de](mailto:tracy.erwin-grabner@studentenwerk-goettingen.de)).

For non-international or German-speaking PhD students, the PSB is specifically offering the "Promotionscoaching".

For more information, visit the website of the PSB and do not hesitate to contact them if you are struggling with anything, also if your problems are not directly related to your work or studies.

<https://www.studentenwerk-goettingen.de/beratung-soziales/psychosoziale-beratung-psb.html>



# Why scientists should engage in Twitter

Jasmin Gömann

## How does Twitter work?

Everyone knows Twitter. Since 2006, Twitter is a steadily growing networking platform and even if you aren't an active Twitter user you probably roughly know how it works. A quick explanation: Twitter is a short message based social media service that is simplifying the real-time communication about certain topics between people from all over the world. You generate an account with a username that is displayed with an @ sign (e.g. @ggnbtimes). You can connect with people by 'following' their accounts and they can follow yours. Your newsfeed will be filled with tweets from accounts you're following. You can write about anything you are interested in, annoyed at, wondering about or that you just find funny in short texts (max. 280 characters), so called 'tweets'. You can share your thoughts, links, news or 're-tweet' other people's tweets in your personal Twitter page and label your tweets with '#hashtags'. These hashtags are used as key words to find all the tweets related to a specific topic. As you can already imagine, the bigger the target community of a certain topic, the more tweets you will find on it.

## How Twitter can simplify your PhD life

But have you ever considered using Twitter for science? In recent years, more and more scientists are joining the scientific Twitter community. There are basically two

ways in which you can use Twitter for your work: either as a recipient of information or as a distributor of information. On the receiving side, you find a lot of information and stay up-to-date with other people's work. This is especially important for young PhD students who are new to the scientific world and haven't formed any research contacts yet. You can follow scientists from your field of interest, scientific journals, institutions or organizations. Researchers of course keep you updated with their research but you can also check out who they follow and so on, thereby slowly building up your own Twitter network. Often when there is a scientific event such as a conference, participants are live-tweeting about it. So even though you might not be able to attend a meeting, you will still be updated about the conference schedule. Journals employ a social media team that is responsible for sharing all recent news, including interesting articles. You can further find accounts that are run by automated paper-searching bots. These bots scan journals and platforms for articles of interest and they show up in your newsfeed. This naturally increases the amount of relevant information that reaches you. And this actually underlines an important advantage of Twitter: Once you set up your profile and follow the most relevant accounts, input will come to you without you having to look for it. This doesn't mean that you never have to do literature re-

search ever again, but it can make your stressful PhD life a bit easier.

## Why you should share your research on Twitter

As a distributor of information, you can use Twitter to broadcast your own recent academic accomplishments or activities to get more attention for your published work. This is of special interest for postdocs and young PIs who are working on building up a reputation. Compared to publishing in a scientific journal, you reach a more diverse audience on Twitter. Not only scientists from your profession, but also people with a general interest in the topic might follow you, which significantly increases your outreach. Twitter facilitates communication between scientists and non-scientists and allows you to present your data in an understandable way. You can further get involved in scientific discussions on Twitter, which helps to get your name known in the community

## The difference between Twitter and other scientific social platforms

But how does Twitter differ from

Research

Research

other scientific or business social platforms such as ResearchGate, LinkedIn or Xing? The short message character of the tweets, that may also include images, videos or links to a more detailed source of the topic, provides the user with the opportunity to get a lot of information at one glance. Filtering through the amount of information in your newsfeed, you have the option to dig deeper into certain subjects by following tweeted links to publications or by actively participating in discussions. You can use Twitter in a professional sense to keep up-to-date with research-related topics but also in your private life to be updated with daily news or your general interests. In contrast to that, ResearchGate is an exclusively professional platform. You can upload recent publications, projects, data or methods on your profile. Like on Twitter you can follow other scientists and get into research-related discussions. You are further assigned a so called 'RG-score', a measure for your scientific reputation. ResearchGate also employs an integrated scientific job market where new positions are advertised. Of course, Twitter is sometimes also used to share open positions, although it happens more rarely because of its much less professional frame and because it is not meant to be an online job market. For this purpose, LinkedIn (international) and Xing (Germany based) are much more useful and professional tools than Twitter. Both platforms are focusing on building up career networks. In your profile you usually show your curriculum vitae and your career interests. You mostly maintain and connect with business-based contacts.

### **Twitter can help you to refresh your mind**

Imagine you are at the end of a busy workday. Your concentration fades away and leaves you stuck with an unsolvable problem that keeps your mind busy even in your free time. Of course, it's important to take breaks from your work and to refresh your mind, especially when you find yourself in a mental dead end. But instead of aimlessly browsing the internet, you could browse Twitter. Thereby you give your brain some rest and may even



Twitter bird © Jasmin Gömann

stumble upon an interesting tweet that is connected to your research topic or you start brainstorming with people that give you a different point of view on your problem. It helps you to take a step back from your problem and to look at the broader picture.

### **Twitter reveals the people behind the science**

Another benefit of Twitter is that scientific communication becomes more personal. Science communication becomes easier in terms of getting in touch with peers or PIs with a similar research focus. It helps in the exchange of ideas and protocols in a less formal way than writing an official email. People usually don't tweet just about their research, but also about their interests outside

the lab. Suddenly, the first author of that Miller et al. paper you were super interested in, becomes the girl who likes free climbing and who has a dog named Biscuit. Some people like this fluent transition between work and private life, while others want to keep both strictly separated. In the latter case you could create two accounts: one for private use and one for professional purposes.

Finally, once you have built up a network, Twitter is a useful tool to stay in contact and exchange with friends and colleagues all over the world.

### **What GGNB students think about science on Twitter**

We asked two GGNB students who are active on Twitter about how they became scientific Twitter users, how often they communicate about their science, whether they established science contacts via Twitter and what they think about the importance of social media in the scientific world.

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#### **The first statement is from Max Farnworth, a PhD student in his final year from the Genes and Development program:**

"I started using Twitter by looking at profiles of scientists I was particularly interested in, without having an own account. After a while, I set up an account for myself, because it was more practical than always searching and selecting for certain profiles. Twitter is one main way to spread the news of anything new regarding my research and interests. More often, however, I use it to get information about current scientific developments

and activities of certain people. Although I have not established any meaningful scientific contacts solely via Twitter, it helps to stay in touch with most people I am interacting with who work abroad. I think, however, that the role of social media platforms in academics is overvalued. And I did not have this opinion when I started using Twitter. I guess the main aspect for academic success is the work that one does. If that's not good enough or the volume not high enough, then even communicating it in an excellent and multifaceted way (i.e. twitter, conferences) will likely not get you where you want to be. Also, like every social media application, it is designed to be addictive, which certainly has worked for me at times. So, I am at least trying to be very selective in who I choose to follow and how long I use it. Caution is advised, as silly as that may sound. Having said that, I think that IF you decide to use social media for academic purposes, twitter seems to me the best solution. You can follow particular people, see discussions, follow accounts to see upcoming papers, or certain journals, or search for topics. I would basically say: if in doubt, leave it. Hence, if you're not sure whether you would benefit, it is best to avoid it than to follow the 'trend' (which, ironically, I probably did)."

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**The second statement is from Benedict Wild, a third-year PhD student in the Systems Neuroscience program:**

"I got into using Twitter for science the same way I get into all

new things: I created an account because there was a lot of buzz about it and then I started following a lot of scientists because science is one of my main interests. I'm also following other topics that I'm passionate about on twitter (e.g. sports). But my impression is that text-based social media (such as twitter) is better suited for topics that rely on verbal communication (e.g., science or politics) whereas picture-based social media (mostly Instagram) works better for topics that don't depend on complicated acts (such as sports).

Because a lot of scientists are quite active on Twitter (especially young ones, such as PhD students, postdocs, and young PIs) it has replaced other channels (such as Facebook, which is becoming less popular among my friends) as a primary way of staying in touch with people that I don't see or talk to on a regular basis. Also, it allows for much quicker communication than the traditional academic channels (i.e., journals). When one of my friends has a paper accepted, they'll tweet about it immediately, possibly adding links to preprints, etc. Until the paper actually appears in the journal, it might take another couple of weeks (because of editorial delays, etc). Even more important: one can get quick feedback, not only on publications, but also on ideas, questions, etc. And here, Twitter's biggest curse can also be a blessing: the 280 character limit (formerly 140) for a single tweet prevents any serious detailed discussion. But because you're limited to very brief questions or statements, this can

also minimize the risk of embarrassing yourself. Thus, it becomes easier for unknown junior-researchers (such as PhD students) to contact famous professors: Talking to them at a conference can be scary; sending them an email only makes sense if you have a very specific question that only they can answer. But commenting on one of their tweets doesn't take much. Worst case, you'll be ignored. Best case, they'll reply and remember your name when you actually do talk to them at a conference. Last but not least, Twitter (and other social media channels) are also great opportunities for science communication, as you can reach many interested people at once, for example through dedicated accounts, such as @realscientists and its German version @realsci\_DE. In conclusion, I think Twitter has the potential to improve many aspects of academia and I would encourage every (young) researchers to get involved."

#### **Suggestions for accounts to follow:**

*@AcademicChatter*  
*@realscientists*  
*@realsci\_DE*  
*@thoughtsofaphd*  
*@PhDMindfulness*  
*@AcademiaObscura*  
*@legogradstudent*  
*@PHDcomics*  
*@Grad\_SchoolProb*  
*@GGNBtimes*  
*@uniGoettingen*  
*@goettingen*

# SPOTLIGHT: QUIZ

## Which type of researcher are you?

Jasmin Gömann and Elisa Krawczyk

Did you ever wonder what your lab book reveals about your personality? Or which deeper meaning lies in your lab mate's pipette boxes? Do the test and find out what stereotype of scientist you are!

### •What is your attitude towards Science?

- A. Science is cool. (=)
- B. It's fun but I mostly hope it helps me finding a well-paid job. (?)
- C. We need to promote scientific progress to overcome future world problems. ( $\alpha$ )
- D. Science encourages collaborations and bonds across borders. ( $\infty$ )

### •How do you tackle scientific problems?

- A. I discuss it with my boss. ( $\phi$ )
- B. If you wait long enough, most problems will solve themselves. (-)
- C. I do brainstorming with my colleagues to see the topic from different angles. (&)
- D. I usually try to solve problems on my own. (\*)



### •Hand on heart: When is the last entry in your lab book?

- A. Lab book? (<)
- B. Not sure, need to check but probably last week. ( $\pm$ )

C. Of course today just after my last experiment! (§)

D. Hm... it's been a while since I updated it. ( $\Omega$ )

### •Follow-up question: What is the overall appearance of your lab book?

- A. I like to visualize experiments with drawings and highlight projects with different colors. (+)
- B. Maybe not perfect but most of the time you find what you need. (=)
- C. Always neat with dates and all captions properly underlined (with a ruler!) (>)
- D. Lab book? (-)

### •What is your ultimate power drink?

- A. Mate. (&)
- B. Depends on my mood. (-)
- C. I appreciate a good cup of tea. (\*)
- D. Coffee, coffee, coffee! ( $\mu$ )

### •How would you describe the relationship to your colleagues?

- A. My colleagues are the best! (+)

B. Strictly professional. They are quite useful for scientific exchange. ( $\alpha$ )

C. Some I also like outside the lab, some I don't. ( $\phi$ )

D. I know all the gossip about every single one of them! Want to hear? ( $\mu$ )

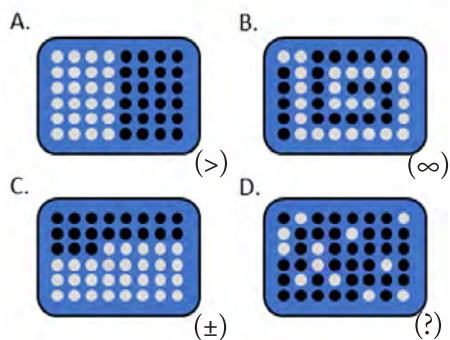
### •How do you spend the time outside of the lab?

- A. Classic couch potato. (?)
- B. I barely have time outside the lab. (§)
- C. I love trying out new things. Tango, pottery course, kickboxing. ( $\infty$ )
- D. Meeting friends, doing sports, whatever is going on. ( $\pm$ )

### •What do you usually have for lunch?

- A. I don't have too much time for extended lunch. Just a quick snack. (>)
- B. Whatever is on the Mensa menu. (-)
- C. I love a diverse diet. I cook almost every day. ( $\Omega$ )
- D. I don't mind as long as there is an after-lunch coffee. (<)

**•What do your pipet tip boxes usually look like?**



**•How do you read a paper?**

- A. I read the whole paper carefully and take notes. (>)
- B. I scan for relevant text passages and skip the rest. (-)
- C. I briefly skim through the text and throw it to my “read later” pile. (μ)
- D. I highlight 90% of the text and look at the figures. (Ω)

**•Do you like teaching and supervising students?**

- A. I prefer master students who already have some lab experience and lighten my workload. (-)
- B. They can be a pain in the ass but sometimes they are useful. (§)
- C. Depends on the students. (±)
- D. I like teaching and supervising and being a mentor to undergrad students. (&)

**•Do you like presenting your data?**

- A. Yes, but I actually spend more time on preparing the layout than on the data itself. (+)

B. I hate presentations and always wait until the last second to prepare my slides – with the expected result. (<)

C. If I have awesome data (which I usually have) and present it well (which I usually do), I like it. (α)

D. I am not a big fan of presentations, but they are part of science and it’s good to get feedback. (=)

**•What conference type are you?**

A. I read the program carefully and systematically choose the poster and presentations that are most interesting for me. (φ)

B. I try to meet the most renowned researchers in my field and impress them with my knowledge. (\*)

C. Networking is the easiest at the conference party. (∞)

D. You can most likely find me with the free food and drinks. (?)

**•How do you stay up-to-date in your field of research?**

A. Every now and then I check Pubmed – usually my boss sends me relevant papers before I find them myself. (±)

B. I learn about important publications in our journal club. (<)

C. I weekly check Pubmed for relevant and high-impact publications. (\*)

D. I check Pubmed, Twitter, Researchgate and Facebook. (&)

**•What do you think your PhD hat will look like?**

A. Something funny, something about my research and some party pictures. (-)

B. I don’t share my private life with colleagues, so probably just something work-related. (§)

C. I am afraid I never helped too much with other hats, so I don’t know how much work they will put in for me. (μ)

D. Probably extravagant – I hope people spend as much time and creativity on my hat as I do on theirs. (Ω)

**•How do you deal with throwbacks or phases of extreme frustration?**

A. I try to get over it and seek help from fellow sufferers. (=)

B. I have a big meltdown once in while involving a lot of crying. (+)

C. I accept them because I truly believe they are part of the learning process. (α)

D. I tend to punch or throw inanimate things. (-)

**•And finally, when did you take this test?**

- A. During my coffee break. (±)
- B. When I needed a distraction to reset my brain. (&)
- C. Of course in my free time! (α)
- D. Busted! I didn’t feel like working. (?)

Now, count your symbols and find out who you are on the next page. It is possible to be more than just one stereotype!

### **Workaholic (> \* § α)**

You are aiming high and plan on a professional academic career. You know the field is highly competitive, that's why you put all your energy into your project. Being a workaholic is exactly your kind of life and you don't mind too much about putting your private life behind. Your career is your highest priority and you get easily annoyed when something or someone gets in your way. Some might say that you are a little bit self-centered or even egoistic but you don't care too much about their comments and you don't like most of them anyways. Your good qualities are your strong ambition, your ability to shake off drawbacks and to learn from problems and mistakes. You should maybe invest a bit more into your social life and remember to take a break from your working life once in a while to take care of yourself. Also, try to get to know your colleagues on a deeper level. You might find some true friends in them that share your passion about science.

### **Mr./Ms. Average (= ~ ± φ)**

You are not white, you are not black – you are somewhat grey. Never the best, never the worst, a classic midfield player. But this is not a bad thing, you don't always have to go to the extremes to be a good scientist. You like science, you like your job, you are content. Why change this? Your work-life-balance really is, what it states – a balance.

You roughly know what you want from life and how to get there. Maybe sometimes with

a little detour, but the way is the goal. Your attitude by times gets misinterpreted as ignorance or indifference, but who cares what others think about you? Staying true to yourself, knowing and being who you are - those are traits you greatly value. In general you get along well with most people and are nice to be around. However, it would not hurt to sometimes burn a bit more for what you are doing. Maybe your true dedication is yet to be found?

### **The Creative (+ Ω ∞ &)**

Creativity is your middle name. You are the imaginative mind in your group and bring colour and life to the lab. The deep passion for science you hold inside makes you love speculating and setting up the wildest theories. Sometimes you wake up in the middle of the night with an idea in your head and you immediately have to write it down – luckily, for these cases, you always have your completely scribbled over notebook close by. You often have crazy ideas about which experiments you could do next, not uncommonly you never put them into action. Colleagues and friends appreciate you for your entertaining and energizing spirit, you are communicative, emotional and open-minded. Also, your curiosity is not just limited to the lab, you love trying out new things in every aspect of life and constantly need new input. However, you tend to be messy, clumsy and sometimes forgetful. Maybe you could try to channel some of your excess energy into fulfilling your tasks more carefully. Planning experiments in ad-

vance and setting up time schedules instead of going off half-cooked will help you achieve your goals.

### **Lazybones (< ? - μ)**

You actually started your PhD because by the time you ended your Masters, you had no other plans and it was the most obvious and least work intensive way to go. You like the research itself and also if some good results are coming out of it – you just hate the work to get there. Your days usually start around 11 am and the first thing you turn on in the lab is the coffee machine. Your colleagues are often annoyed by your way of working (if you are actually working) because you are somewhat messy. You tend to “forget” about cleaning and filling up solutions that you empty. Sometimes you feel a bit anxious thinking about the time writing up your thesis because you know yourself and your (non-existing) organizational skills. But in the next moment you put the responsibility to your future self, lean back and have a sip of coffee. Your strengths are your easy-going mood and your insensitivity to stress, which has a calming effect on your panicking colleagues. But be careful! Your laziness might eventually cost you your PhD. You still have some time to change your work attitude before getting into real trouble so take your chance! P.S. Don't forget to update your lab book!



# The controversy about Open Science and Open Access – Are academic publishers enemies of science?

Elisa Krawczyk

It is not news that the ongoing digitalisation presents researchers all over the world with a vast number of new challenges and opportunities. One of those opportunities is the achievement of a global 'Open Science'. And while most scientists might have come across the terms 'Open Science' and 'Open Access' by now, probably few have more than a vague idea of what it actually means and especially what it entails.

To really grasp the full concepts of Open Science and Open Access and also how they relate to the tense relation between scientists and publishers, it is important to understand how and why the idea evolved, what exactly is demanded and which consequences this would have for scientists and non-scientists.

## An introduction to the basic principles of Open Science

Generally, 'Open Science' is a generic term for different movements that want to make all scientific research contents freely accessible for anyone. Open Science initiatives want to promote transparency, reproducibility and reusability of research in order to improve research quality and secure good scientific practice. However, Open Science is not a fixed term and there are many definitions and even schools of thought regarding its definition and implementation.

Obviously, the basic idea is 'openness'. The term 'open' in context of data and content strongly simplified means free of copyright. Or, to put it a bit more elaborately as published in the 'Open Definition' by the Open Knowledge Foundation, "Open data and content can be freely used, modified, and shared by anyone for any purpose" [1]. What does this include? Generally, Open Science initiatives promote six principles: open access, open methodology, open data, open source, open peer review and open educational resources. It can also include practices like open-notebook science, crowdsourcing data or citizen science. Also, the 'measurement' of scientific success is addressed. While nowadays, scientific accomplishment and success is mainly measured in the amount and the impact of publications, the implementation of Open Science would allow taking data, methods, peer review activity or participation in open online discussions into account to quantify scientific performance of a scientist.

To translate this into practice, researchers should upload their generated data to repositories on the internet to make them not only accessible for anyone, but also allow for and encourage their re-analysis and reuse. Research should be shared as early as possible during the discovery process and there are even concepts of open lab books that are

**Open Science Info Box**

The 'Open Research Glossary' ([https://figshare.com/articles/Open\\_Research\\_Glossary/1482094](https://figshare.com/articles/Open_Research_Glossary/1482094)) tries to provide basic definitions for all terms related to Open Science.

**Open Access**

Open Access basically means that **peer reviewed scholarly articles** are made available on the internet for anyone – **free of charge and free to read, copy, download, print, distribute and search.**

**Open Methodology**

Published methods are often short and imprecise. To ensure **reproducibility and reusability** of data, **uniform records** are needed (like the unique Research Resource Identifiers (RRIDs) at [scicrunch.org](http://scicrunch.org) by the Resource Identification Initiative for biomedical science).

**Open Data**

Data that is **freely accessible** on the internet for anyone, allowing for **downloading, copying, re-analysing or re-processing** free of charge and without technical barriers, e.g. by uploading it to repositories (like [figshare.com](http://figshare.com) or [datadryad.org](http://datadryad.org)).

**Open Source**

Software (e.g. used for data analysis) with **source codes** that are freely available, have an **open source license** and allow for **reuse, adaptation and further distribution.** Repositories like [GitHub.com](http://GitHub.com) can be used to store and distribute source codes.

**Open Peer Review**

A peer review process that is entirely **transparent.** All names of involved parties are known to everyone and **reports of the reviewers are published** alongside the paper.<sup>12</sup>

**Open Educational Resources**

Online **educational materials** of high quality with **open licenses** that can be **shared, used and re-used.**

freely accessible on the internet. All software used for e.g. data analysis should be open licensed and source codes should be uploaded in special repositories. Pre-prints of manuscripts should be provided online. Peer review processes are to be made completely transparent and reviewer reports be published with the article, to prevent misuse of blind reviewing processes (like scooping data). And last but not least, all articles should be published in Open Access Journals, which will be addressed later in this article

### Back to the very beginnings of Open Science – the advent of scientific journals

To get an idea of how and why the idea of Open Science and Open Access evolved, let us go back in time. Back to the time before scientific journals facilitated the exchange of new discoveries and knowledge. While today it is taken for granted that communication and knowledge exchange are vital parts of scientific progress, there were times when this was not the norm. It was actually not before the 1660s that scientists stopped being secretive about their research and their results. Back then, letter correspondence was essentially the only way of scientists sharing their knowledge with other scientists. And even in those letters, research data was often encrypted by the writing scientist to prevent the other scientist from stealing ideas before one could profit from them. With the appearance of the first academic journals, the British ‘Philosophical Transactions of the Royal Society’ (which is still running and hence the longest running academic journal!) and the French ‘Le Journal

des Sçavans’ in 1665 [2,3], a new era was heralded and the foundation for Open Science was set. Other nations quickly followed the British and French example, the first German journal ‘Acta Eruditorum Lipsiense’ appeared in 1682 and ever since 1665, the number of scientific journals and scientific publications is increasing. The number of published scholarly articles since 1665 was estimated to have passed 50 million in 2009 [4]. In 2014, there were about 28,100 active peer-reviewed English-language academic journals, in 2018 there were already 33,100 [5,6].

### The rise of academic journal publishing reforms - or how the tensions started

Ironically, although scientific journals paved the way for Open Science more than 350 years ago, today they are discussed to be one of the main obstacles on the way to get there. How did academic journals, that only made scientific exchange possible, end up preventing access to scientific results? And why did the relation between scientists and publishers get so tense?

Again, to get a full picture of the problem, we have to take some steps back. Before the advent of computers and the internet, publishing was a difficult and expensive process. Copyediting and type setting were time-consuming tasks and the printing and worldwide distribution of journals posed a challenge that was met by publishers. The costs for publishing of course had to be covered, which is how journal charges evolved. Today, most journals follow a pay-per-view or subscription-based business model. This means that institutions or lib-



raries pay annual subscription fees to publishers to provide their members with access to journals and articles. However, in the 1990s, the ‘serials crisis’ occurred. Subscription prices of scholarly journals increased a lot faster than the inflation rate and beyond funds available to libraries and institutions (which did not increase or were and still are even cut down). Libraries had to cancel subscriptions and as a consequence, to make up for reduced numbers of subscribers, publishers further increased their prices. The reasons for this development are di-



verse and under a lot of discussion. The starting transition from print to electronic formats further exacerbated the problems. Computers and the internet meant that a great deal of publishers' work became dispensable. Many parts of editing, type setting and copyediting, as well as the peer review process, are facilitated by computers and taken over by researchers who mostly do not get paid by the publishers. Many journals do not even have print versions anymore and worldwide distribution is an easy task in times of the internet. Still, subscription fees are at an historic high. Calls for an academic journal publishing reform and protests became loud. A prominent example is the worldwide 'Cost of Knowledge' boycott against the publisher Elsevier. It was signed by 17,670 researchers since 2012 (as of August 28th 2019), declaring that they will not write, edit or review articles for academic journals belonging to Elsevier [7].

### **Taking a deeper look: a bunch of numbers and quotes**

George Monbiot, British journalist and political and environmental activist, even called academic publishers "the most ruthless capitalists in the western world, whose monopolistic practices make Walmart look like a corner shop and Rupert Murdoch a socialist" [8]. This seems a heavy reproach. Let us take a deeper look at some numbers to get an idea why researchers and mem-

bers of the public might feel this way.

The international Association of Scientific, Technical and Medical (STM) Publishers estimated the annual revenues generated from English-language STM journal publishing at about € 9.1 billion in 2017 [6].

Elsevier alone, one of the biggest academic STM publisher and target of the boycott by researchers, reports revenues of around € 2.785 billion with an adjusted operating profit of around € 1.047 billion\* for 2018 [9]. In comparison to companies with the highest turnover – according to Fortune Global 500 in 2018 this was Walmart with revenues of around € 450 billion and net profits of € 9 billion [10] – Elseviers € 2.7 billion seem relatively small. However, few companies have profit margins\*\* as high as Elsevier or other big STM publishers: Walmart has a profit margin of 2%, highly profitable Apple 21% and Elsevier a whopping 37%. According to the University Library of Erlangen-Nürnberg, 9 out of the 10 most expensive journals in 2015 were published by Elsevier, the most expensive one being 'Biochimica et biophysica acta' with annual subscription costs of more than € 23,000 [11]. Scientific publishing is indeed a very lucrative business.

What leaves many scientists and members of the public angry about this business model is two major

points: First, it is hard to understand how the exorbitantly high subscription fees are justified, since publishers get articles, peer-reviewing and great parts of editing for free. Secondly, scientists, often funded publicly, conduct their research and write articles, which then have to be paid for by often likewise publicly funded libraries if these scientists want to access it afterwards. Moreover, also the scientists doing the peer reviewing are often funded by the public. The tax payer is thus made to pay three times for one article while publishers generate revenues in the billions.

Mike Taylor, computer programmer and research associate at the department of earth sciences, University of Bristol, put it like this: "It's hardly surprising that publishers would fight dirty to hang on to a business model where scientists do research that is largely publicly funded, and write manuscripts and prepare figures at no cost to the journal; other scientists perform peer-review for free; and other scientists handle the editorial tasks for free or for token stipends. The result of all this free and far-below-minimum-wage professional work is journal articles in which the publisher, which has done almost nothing, owns the copyright and is able to sell copies back to libraries at monopolistic costs, and to individuals at \$ 30 or more per view" [12]. Publishers on the other hand put forward the objection that they do still add value to

\* 83 % of these revenues were generated through electronic formats and just 17 % through print formats

\*\*for the non-economists among us: net profit/ revenue = revenue-cost/ revenue = net profit margin)

\*\*\* The STM Publishing Association stated "The serials crisis arose not just because of these pressures on prices, but also because growth in research budgets [...] has consistently outpaced growth in library budgets. [...] This is partly attributable to efficiency gains (e.g. bundled and consortium-based purchasing, other shared services, outsourcing of cataloguing and reference services, and staff reductions) but also reflects the failure of libraries to make their case for sustaining their share of a growing total budget" [6]

\*\*\*\* e.g. NIH, Wellcome Trust, Bill and Melinda Gates Foundation"

scientific articles, because they "develop journal brands and maintain and improve the digital infrastructure" [8]. Elsevier claims, they "serve the needs of scientific, technical and medical markets by organising the review, editing and dissemination of primary research, reference and professional education content" [9]. Also, there are statements of cost available in the 2018 STM report. These claim average costs for a journal article of € 3,450, with € 1,400 for "first copy costs (the costs incurred regardless of the number of copies distributed, e.g. peer review management, copy-editing, typesetting & origination)", € 645 "variable costs (printing, paper, distribution)", € 740 "indirect costs (staff



Open Access Logo from open-access.net

and overheads)" and a surplus of € 650 [6]. According to the report, these costs vary greatly, though, depending on the journal. Nature's editor-in-chief Philip Campbell is reported to have estimated the journal's internal per-paper costs at € 22,000–33,000 [13]. Rather than seeing themselves, the publishers, at fault for the serials crisis, the Association of STM Publishers blames libraries for failing to make a claim for higher budgets\*\*\*.

### The idea of Open Access

As an alternative to the criticised subscription-based

models, the Open Access publishing model is proposed and already required by several funding organizations\*\*\*\*. The rise of the internet coincided with the serials crisis, the dissemination of science became easier, and in the early 2000s, first initiatives were taken to foster Open Access (see Milestones infobox).

Open Access describes the online availability of research articles, free of charge and free of technical, legal or any other barriers. To implement Open Access, there are different strategies. The two main strategies are the so-called Gold Road and the Green Road to Open Access. For Gold Open Access, the 'direct Open Access', articles have to be published in Open Access Journals. Usually, just as for closed access, these are peer reviewed. Articles can be read by anyone, free of charge, and often authors retain rights for their articles in open access publication licences. Financing of this model works through "author-pays" models like publishing fees, the article processing charges (APCs) paid by the submitting author for accepted and published articles. Also, sponsoring, advertisements or selling of print versions are means to finance this model. Moreover, many publishers that publish different open and closed access journals often cross-finance Open Access journals through their closed access journals.

Another strategy is the Green Open Access or the "self-archiving". Here, articles can be published in closed access journals but the author uploads a copy to an online Open Access repository, where it is freely accessible. This happens either simultaneously with publishing of the journal or after a certain

embargo time, usually between 6 and 24 months. Preprints but also postprints can be self-archived this way. However, self-archiving is not possible with any journal since it can cause legal problems for the author. The SHERPA/RoMEO directory [14] offers some guidance on publisher copyright policies and self-archiving options for different journals; the Registry of Open Access Repositories (ROAR) [15] and OpenDOAR [16] offer lists of Open Access repositories. Next to these strategies, there is also Hybrid Open Access Publishing. Here, publishers offer the choice to publish an article Open Access in otherwise closed access journals. Some of the articles in a subscription-based journal are thus published Open Access, while the rest stay pay-walled. Examples are Springer Open Choice, Wiley Online Open or Elsevier Open Access, to name three of the biggest STM publishers. However, hybrid Open Access is often seen as problematic and funders still feel double-dipped, since they pay subscription and publishing fees for an article.

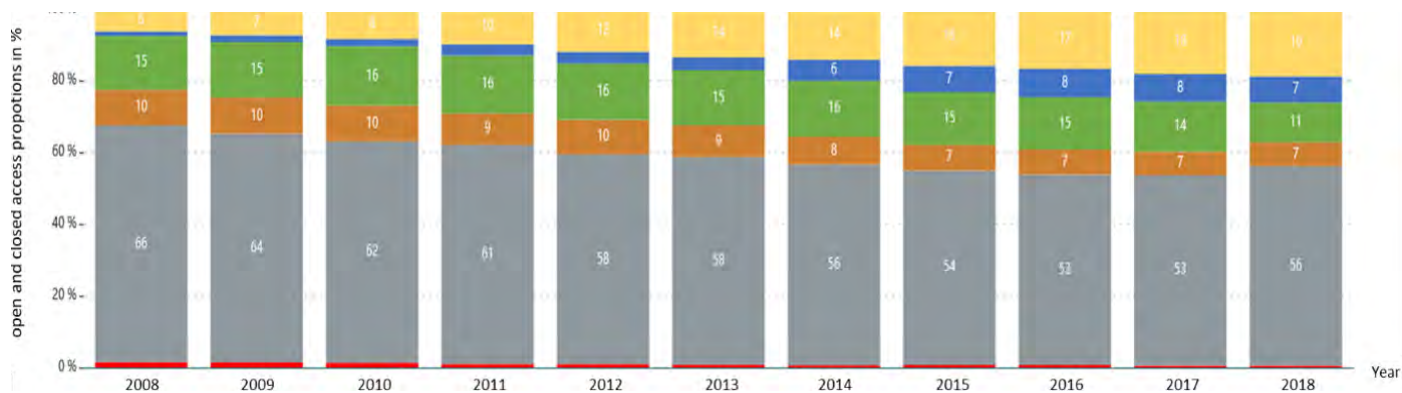
Sometimes also the term bronze Open Access is used for articles that are not published under Open Access licenses but that are freely accessible to download or read from the publisher's website (however they cannot be distributed or used).

The APCs charged for different journals vary greatly, from around € 500 to € 5,500 (see APC infobox for more detailed information). To pay APCs, there are now more and more centralised funds available (which often do not support hybrid Open Access publishing, though), also many journals offer waivers for

authors who cannot afford them. There are also Open Access Journals that do not charge authors for publishing at all, this is sometimes referred to as Diamond Open Access.

Out of 334 Open Access Journals from the category “Science” listed in the Directory of Open Access Journals [21], 217 do not charge APCs (as of 30th August 2019), among them 154 English-language

journals. As can be seen in the graphic, the relative amount of gold and hybrid Open Access articles in Germany constantly increased in the last decade, while the amount of green and bronze Open Access ar-



Relative contributions of Open and Closed Access for articles published in Germany between 2008 and 2018. Figure modified from <https://open-access-monitor.de/#/open-access>.

## Open Science in Göttingen

The University of Göttingen supports Open Science. In November 2016, the University of Göttingen and the University Medical Center Göttingen published a joint ‘Policy on Open Access to Publication’, stating that Open Access promotes research and innovation. Publishing scientists are encouraged to not relinquish their exclusive right of use when entering an agreement with publishers and to retain their right of use for Open Access dissemination. However, the policy also recommends that the publication culture in the respective discipline as well as the career situation of the researcher have to be assessed and taken into account when deciding on how to publish. Authors are furthermore asked to upload a copy of their publication on the institutional Open-Access-Repository GoeScholar. Also, an open access publication fund, to enable researchers that do not have a publishing budget to publish their work Open Access of their own, is provided. Up to 2000 € publication costs are completely taken over through fundings of the DFG, if certain requirements are met: The corresponding or submitting author is member of the University of Göttingen, the journal where the article will be published in is listed in the Directory of Open Access Journals (DOAJ) and the journal has to be peer reviewed. Publishing in hybrid Journals (e.g. via Elsevier Online Open Access Option, Wiley Online Open, Springer Open Choice) is not financially supported by the fund. The Open Access Publishing services run by the Göttingen State and University Library offer more information and help on open access publishing [23, 24, 25, 26].

Next to these measures, there are also quarterly Open Science Meet-ups in Göttingen to discuss and promote Open Science principles in Göttingen (for more information, researchers can subscribe to a mailing list [27] or check the Open Science Göttingen Masterpad [28]). There is also a monthly hacky hour to discuss digital tools and research approaches (for more information, there is a mailing list and a Chat) [29] and a (German) online self-learning course introducing Open Educational Resources is offered by the University [30].

\*\*\* The STM Publishing Association stated “The serials crisis arose not just because of these pressures on prices, but also because growth in research budgets [...] has consistently outpaced growth in library budgets. [...] This is partly attributable to efficiency gains (e.g. bundled and consortium-based purchasing, other shared services, outsourcing of cataloguing and reference services, and staff reductions) but also reflects the failure of libraries to make their case for sustaining their share of a growing total budget“ [6]

\*\*\*\* e.g. NIH, Wellcome Trust, Bill and Melinda Gates Foundation”

ticles stagnated (or even decreased). According to the open access monitor from the Forschungszentrum Jülich, in 2018 in Germany, 44 % of the publications were published Open Access (taking into account gold, green, hybrid and bronze Open Access) [22].

On the way to Open Science, Open Access is for sure a great achievement. However, whether the APC model (of researchers paying journals for publishing their research) will be able to ease tensions between scientists and publishers is yet to be seen. It is widely perceived that paying APCs for printing your articles is not necessarily better or even worse than the traditional publishing models. However, one major difference to the subscription- or pay-per-view-based models is that anyone can access these articles. Not just members of institutions and libraries, but anyone who is interested. Especially taxpayers who fund research by paying taxes are thus no longer excluded from reading research. Time will show whether the trend of Open Science and especially Open Access will continue and grow. For more information on Open Science and Open Access initiatives see also:

<https://openscience.com>

<http://openscience.org>

<https://open-access.net>

<https://ag-openscience.de>

<http://openscienceasap.org>

<https://www.budapestopenaccessinitiative.org>

<https://www.gerdi-project.eu>

<https://open-access-monitor.de/#/>

<https://www.coalition-s.org/>

## Plan S

In September 2018, cOAlition S, a group of at the time eleven European research funding organisations with support from the European Commission and the European Research Council (ERC), launched an initiative to put immediate and full open access of publicly funded research into effect by 2021. They called the initiative Plan S and devised ten principles to reach their main target: ‘With effect from 2021, all scholarly publications on the results from research funded by public or private grants provided by national, regional and international research councils and funding bodies, must be published in Open Access Journals, on Open Access Platforms, or made immediately available through Open Access Repositories without embargo’. In short, the ten principles postulate the following: Firstly, cOAlition S demands that all authors retain unrestricted copyrights of their publications and all publications must be published under an open license. The criteria and requirements that open access journals and platforms must meet are to be established by the funders and funders should provide incentives and support for them. Also, fees for publications, which will have to be standardised and capped across Europe, will have to be paid by the funders or universities and not by the publishing researcher, so that all scientists, irrespective of their financial means, are able to publish. To ensure transparency, universities, research organisations and libraries will have to justify their policies and strategies to the funders. Also, the funders will control compliance to these principles and can impose sanctions for non-compliance. Moreover, ‘hybrid’ publishing is unwanted and the importance of open archives and repositories is acknowledged. In the long term, the principles should apply for any type of scholarly publication, however the cOAlition S admits that especially for monographs, open access might take longer [31].

[1] <http://opendefinition.org/>

[2] <https://royalsocietypublishing.org/toc/rstl/1/1>

[3] <https://gallica.bnf.fr/ark:/12148/bpt6k56523g>

[4] Article 50 million: an estimate of the number of scholarly articles in existence; Arif E. Jinha, 2010

[5] [https://www.stm-assoc.org/2015\\_02\\_20\\_STM\\_Report\\_2015.pdf](https://www.stm-assoc.org/2015_02_20_STM_Report_2015.pdf)

[6] [https://www.stm-assoc.org/2018\\_10\\_04\\_STM\\_Report\\_2018.pdf](https://www.stm-assoc.org/2018_10_04_STM_Report_2018.pdf)

[7] <http://thecostofknowledge.com/>

[8] <https://www.monbiot.com/2011/08/29/the-lairds-of-learning/>

[9] <https://www.relx.com/~media/Files/R/RELX-Group/documents/reports/annual-reports/2018-annual-report.pdf>

[10] <https://fortune.com/global500/2018/>

[11] <https://www.archiv.ub.fau.de/elektronische-medien/elektronische-zeitschriften/teuersten-zeitschriften.shtml>

[12] <https://www.theguardian.com/science/2012/jan/16/academic-publishers-enemies-science>

[13] <https://www.nature.com/news/open-access-the-true-cost-of-science-publishing-1.12676#rise>

[14] <http://www.sherpa.ac.uk/romeo/index.php>

[15] <http://roar.eprints.org/>

[16] <http://v2.sherpa.ac.uk/opendoar/>

[17] <https://www.elsevier.com/de-de/about/open-science/open-access>

science/open-access

[18] <https://www.springernature.com/gp/open-research/journals-books/journals>

[19] [https://submit.elifesciences.org/html/elife\\_author\\_instructions.html#](https://submit.elifesciences.org/html/elife_author_instructions.html#)

[20] <https://wellcome.ac.uk/sites/default/files/developing-effective-market-for-open-access-article-processing-charges-mar14.pdf> Developing an Effective Market for Open Access Article Processing Charges, Björk and Solomon, 2014

[21] <https://doaj.org/>

[22] <https://open-access-monitor.de/#/open-access>

[23] [www.uni-goettingen.de/de/amtliche-mitteilungen-i-ausgabe-65-06122016/552696.html](http://www.uni-goettingen.de/de/amtliche-mitteilungen-i-ausgabe-65-06122016/552696.html)

[24] <https://www.sub.uni-goettingen.de/en/electronic-publishing/open-access/open-access-publication-funding/>

[25] <https://goedoc.uni-goettingen.de/>

[26] <https://www.sub.uni-goettingen.de/en/electronic-publishing/open-access/#c2963>

[27] <https://listserv.gwdg.de/mailman/listinfo/openscience>

[28] <https://pad.gwdg.de/s/OpenScienceGOE#>

[29] <https://hackyhour.github.io/Goettingen/>

[30] <https://www.uni-goettingen.de/en/565234.html>

[31] <https://www.coalition-s.org>

# Interview with Dr. Alexander Schiller

Jenifer Rachel

**Dr. Schiller thank you for your time. Tell us, what is the main theme of the courses you offer at the University of Göttingen?**

We offer a whole range of transferable skills, from poster and oral presentations to drafting grant proposals and research papers. We also shine light on project and time management, self-management, leadership and teams, conflict management, negotiation and career development. These are elements of scientific education that are often termed 'soft skills'. In science, I wouldn't say that writing and presenting your science is a 'soft skill'. If you do not develop these skills to a serious level, you will not become a good scientist. It's important not just to do science, but also to spread it, and we train people to become the best at this.

**You have been a junior professor at the University of Jena before becoming a trainer full time. Why did you make the shift from research to training?**

As a junior professor, I followed university courses about how to be a good teacher. I realized that I liked the courses themselves, but I wanted more quality. Daniel, my partner at "Schiller & Mertens", and I looked for more opportunities to be taught the way we felt teaching should be done. Innovative teaching has nothing to do with letting the students sit in a class, where the only one speaking is the professor. It must be interactive, it must be immersive (that's what we call it). It

must be deep. It must still contain intellectual rigor and must be highly challenging. We believe that this is possible with interactive techniques.

from a strict university setting have few opportunities to learn this. After graduating from university, we are stuffed with knowledge, but we

*Dr. ès sc. habil. Alexander Schiller is a well-known name on the Göttingen Campus, especially amongst doctoral students of the GGNB and GAUSS programs. He provides several professional skills courses every year. Dr. Schiller was a DFG Heisenberg fellow, and a junior professor of inorganic chemistry at the University of Jena, Germany. In 2011, along with a partner, he started a company aimed at professional skills training, called "Schiller & Mertens". Since 2016, he is a full-time trainer at "Schiller & Mertens", where he teaches advanced research training skills like competent communication in science, team building, writing in research and effective scientific communication. Dr. Schiller sat down for an interview with the GGNB Times, to talk about what he aims to accomplish and his vision for efficient scientific communication strategies. .*

**On your website there is a motto that says, 'as a scientist I look at the result, as a trainer I look at the process.' Tell us about that.**

The unique background behind this motto is the fact that we trainers are originally scientists, who have worked in leadership positions in research. As a classical scientist you focus a lot on the output, such as number, quality, h index, money etc. Results are primarily in the focus. Good scientists however realize that not only results, but processes need to be taken care of as well.

Now, having taken on the role of a trainer and looking at the situation from the other side, we realize how important it is to support PhD students in their development towards becoming leaders who pay attention to these processes. Scientists

have no idea what it takes to lead a team, how to manage people etc. These are the processes that we hope to train people in our organization.

**Are these the qualities that make PhD students particularly attractive to recruiters in industry?**

Something I firmly believe in, and what I always tell PhD students in our courses, is that after a PhD, no matter if they decide to continue in academia or transition to industry, they will very likely move into a leadership position. A typical PhD takes between 3-4 years. 6 years are required to develop as a professional in the role of leadership and teaching. The development as a leader is an ongoing progress, and this is what industry is looking for. In most cases, PhD students can solve problems, they are re-

silent, they know what frustration means, they know how to overcome it and they understand what the creativity process means. These are attractive qualities for industry recruiters.

**What are the underlying issues that you think are not discussed so often about the education of PhD students?**

Professors and hardcore researchers will say that the most important aspect of a PhD student's education is producing research. However, interesting career websites publish meta PhD goals, and these highlight the additional skills and processes that a PhD student must possess, in order to produce results. One has to be aware of the creativity process, of how to meet deadlines, develop resilience, and how to network effectively. This is where the GGNB plays an important role, because they fully realize, and rightly so, that research is not all it takes to be a good researcher. We at Schiller&Mertens are just a promoter for this message. We go deeper and make people aware that these

are important things to discuss and discover.

**Do you believe that improved interpersonal skills can lead to greater productivity in the laboratory?**

That's a point which aims towards the technical optimization of PhD students and their work. What I pay more attention to is if they are satisfied with their work. We often host group leaders and professors in our training groups. We tell them to be careful in their interactions with PhD students, because they are in an influential position to leave footprints in people. These interpersonal skills that we inculcate in PhD students will bear fruit when they become group leaders and professors.

This generation is already at hand. We now see more and more people who were trained this way as PhD students, and who are now professors. It doesn't mean that they publish more, or better, but the people in their groups are not treated as scientific robots. For scientists particularly, who are extremely absorbed workers, you need to have a supportive atmosphere. It's not a 9 to 5 job, it's sometimes a 60-, or even 80-hours per week job. To make this a sustainable situation, it's important to have a good atmosphere, which can in turn lead to higher productivity. But as you can see, this is an enormously complex issue to tackle.

**Do you focus your efforts solely on the scientific community?**

We also do these training courses for physicians, not just in Germany but also abroad. However, our main clients are scientists. I know their

situation better, coming from the field myself. I probably do not completely understand the challenges that someone, working in sales, faces. So in this aspect, it's important that the trainer should come from the same field.

**Is there a specific incident that made you want to solidify your switch from research to teaching? Any spark of inspiration that made you want to take the plunge full time?**

When I was attending a management course as a junior professor, there was a trainer and she was telling us about conflict management. It was not a very interactive session, but what she said blew my mind. She gave me so many answers to strange situations I faced in my institute. I remember thinking, "Wow, I want to learn this too!". I thought back to my institute in Jena and all the problems that arose from mis- and bad communication and the wrong attitude. It is extremely complex to change attitudes, and this needs immersive training. This ignited a spark, and I wanted to learn how to train people this way. So I looked for great teachers and everything else came one step after another.

**Who is your biggest inspiration today?**

My closest partner, mentor and friend in teaching is Thiagi. He's an Indian living in the US, and he is impressive. He is really a part of my family, so much so that my kids regard him and his wife as grandparents. He developed a universe of interactive and innovative teaching. I met him in 2016, during a training in California, where he served as a trainer and I myself was a



© Dr. Alexander Schiller

student. I knew his methods before and I was eager to get to know him. We were amazed by each other. He's now 81 years old and he's given his legacy to me. I am trying to publish his work in Germany. We desperately need scientists who want to become trainers in transferable skills training and Thiago is the one who put me firmly on the road to this quest.

**Do former students approach you in outside sectors to say thank you?**

We have more and more people doing this these days and we encourage people to give feedback. There was a student from the MPI-BPC who won a poster prize after attending one of our courses and she wrote me an email to say thank you. I also use this feedback now in other courses. This is the highest level of evaluation, when you can see an attitude change. It's a good feeling that people are taking what I'm saying deeply to heart. Since I've been doing these training courses,

98% of the time I am involved in positive things. This is really a gift. There is so much positive energy from attendees, the coordinators and the GGNB, and this is fantastic. They are passionate about this and believe, as I do, that this is an important aspect of a PhD student's training.

## Staying in Academia or leaving for R&D? How about neither!

Elisa Krawczyk

'So, what do you study?'

'I study [insert life science here]'

'Cool! And... what can you do with that later?'

Most of us have had this or a similar conversation at least once. And while some students already have a quite precise plan of what they want to do and can clearly answer the question, others struggle (or had a precise plan but start to struggle during their studies or PhD).

The GGNB and the University offer many possibilities to get help and information on career options (like the PraxisBoerse, WoCaNet or the GAUSS Career Service, to mention some). Nevertheless, most of us probably just consider the most 'visible' career paths like staying in academia or leaving for research and development jobs in industry. However, there are other options out

there that may not occur to us at first.

We asked three alumni from the University of Göttingen who studied or did their PhD in a life science here and who ended up in more 'uncommon' jobs.

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### **Lennart Wolfgang Pyritz – freelancing science journalist**

Lennart Wolfgang Pyritz started studying biology at the University of Göttingen in 2001 and finished his studies here in 2011 with a PhD in behavioural biology. After that, he got insights into different editorial offices at Süddeutsche Zeitung, Quarks & Co and DIE ZEIT and finally did his traineeship (Volontariat) at Deutschlandradio. In 2015, he became a freelancing science journalist.



Lennart Pyritz © Anike Weydringer

### **Was it always clear to you that you wanted to become a science journalist?**

'Becoming a journalist or a science journalist wasn't my plan from the beginning. During my diploma thesis in Bolivia, I wrote some texts about life and nature there for an online magazine and noticed that it was fun. Before I wrote my doctoral thesis, I did internships

at Spektrum.de and GEO and wrote a blog for Spektrum.de during my doctoral thesis. However, it was only at the very end of my doctorate that I really decided to give it a try as a science journalist.'

**What are your main tasks and what does a day as freelancing science journalist look like?**

'My daily work as a freelance journalist is varied. However, since I work most of the time for Deutschlandfunk, there are also many fixed services and procedures. I present the programme "Forschung aktuell", do editorial services, write features, articles and science news. Again and again, I travel through Germany and Europe to conduct interviews with scientists at a research institute or at a conference.'

**What do you like most about your job?**

'What I like about my job as a journalist is that you dive into many different areas and topics. I like researching, weighing and combining different sources. I am happy to stay

in touch with researchers and topics from the time of my doctoral thesis. And I think it is important to report on topics such as species and nature conservation, to present the relevance of nature for us humans, and to describe research policy and publication culture in a way that is general-

ly understandable and critical. The planning and financial uncertainty that has to be dealt with is certainly a particular feature of my profession. On the other hand, it is precisely these aspects that are associated with great freedom.'

**Which special trainings did you do to become a science journalist?**

'I completed an 18-month internship ("Volontariat") at Deutschlandradio in Cologne and Berlin (with a station at the BBC in London). I would say that a traineeship is one of the standard paths into journalism alongside a journalism school or journalism courses at a university. In my case, the traineeship was designed for science journalism, i.e. specifically for people who already had a university degree in the natural sciences.'

**Is there something that you would have done differently in hindsight or that you would advise scientists who want to become journalists?**

'I have taken a long and winding path into journalism. In my environment, I also see that there are very different paths to this profession (especially since the profession and the media in which it can be practised are also very diverse). In retrospect, however, I wouldn't want to be any faster because I enjoyed my time as a biologist at the University and at the German Primate Centre very much. My only advice would be: If you can imagine a life as a journalist, just start writing articles for an online magazine or a newspaper or doing an internship at a newspaper, radio- or

TV-station. Then you can check if the job really is something for you and get a glimpse into the working routine. I also think that a little idealism doesn't hurt if you want to become a journalist because it sometimes takes longer to establish and finance yourself.'

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**Mario Cocar-Schneider – European Patent Attorney and 'Syndikuspattentanwalt'**

Mario Cocar-Schneider studied physics at the Georg-August University Göttingen between 2000 and 2006. He obtained his diploma in theoretical physics and is now working in the intellectual property department of Siemens as Senior IP Counsel.



Mario Cocar-Schneider © Andreas Abendschein

**How did you end up as a patent attorney?**

'Already during the course of my studies I became aware of the opportunity to work in the field of intellectual property (IP) and to become a patent attorney. This was due to the career of a famous physicist: Al-



bert Einstein. Einstein was working as a patent examiner at the Swiss patent office in Bern, Switzerland, and as a student of theoretical physics, I was familiar with Einstein's biography. In general, dealing with the latest technical developments appeared to be intriguing to me. However, in contrast to Einstein who as an examiner dealt with the examination of patent applications, a patent attorney is among others concerned with representation in front of the patent offices and providing consultation to his clients. Anyway, after obtaining my diploma I was looking for job opportunities. As the field of intellectual property enables the overall technological progress of society I wanted to make a contribution and took a job as a trainee to become a patent attorney in a company producing and developing measurement devices.'

### **What are your main tasks as a patent attorney?**

'In general, as a patent attorney, you work at the interface of cutting edge technology and law. Especially with my job at Siemens, besides the analytical skills I acquired during my studies, entrepreneurial, strategically oriented thinking and acting is required. Furthermore, I need to be able to work interculturally with developers, product managers and patent attorneys at various international Siemens locations. Typical tasks include identifying valuable IP assets such as patents, trademarks, and designs in order to protect the company's research and development investments. Furthermore, harvesting of invention disclosures, drafting of patent applications and responses to examination reports are part of my job. Another part of

my time is dedicated to providing legal advice to inventors and decision makers within the company.'

### **What do you like most about your job?**

'As technology is evolving, I need to be able to adapt to and understand these new technologies. As a patent attorney, I deal with new ideas on a daily basis. For example, my current focus is on technologies such as artificial intelligence, cloud and blockchain. Thus, things never get old. However, it is not only the technical field that keeps evolving, it is also the law that is subject to changes. In particular, regarding computer-implemented inventions, the case law of the courts especially in Germany, Europe and the United States are shaping our understanding of which inventions are patentable and which not. In general, having a scientific background, it was interesting to find out that, e.g. in contrast to mathematics and physics, in the field of law, things are not always clear-cut but you are rather operating in a 'grey-area'.'

### **Which special trainings did you take to become a patent attorney?**

'The training to become a patent attorney involves learning-on-the-job and taking courses in patent law and civil law as well. For example, in order to become a German patent attorney you need to take part in a two-year distance-learning course at the FernUniversität Hagen. In addition, there are qualifying exams in order to become a German patent attorney and a European patent attorney, respecti-

vely, for which you need to prepare separately and for which the ability for self-study is required. And, even after you qualified, there is the need to keep up with the latest developments, e.g. by reading articles and publications.'

### **Which special skills does a patent attorney need to hold?**

'A thorough scientific education is the basis and also a prerequisite for this career path. Most probably you will be handling inventions from largely different technical fields. Thus, a broad knowledge of the fundamentals in different technical fields, such as material sciences, electronics or IT, is advantageous. In addition, a willingness to understand and learn new things is required. Bringing along some curiosity for new things makes the job a lot of fun and let's you get to the bottom of things, if required. Finally, you need to be able to understand and explain the inventions to the general public.'

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### **Alexander Pairan - Expert for DNA-analytics and forensic science at the Lower Saxony State Office of Criminal Investigation**

Alexander Pairan obtained his diploma in biology in Kassel in 2001 and then moved on to Göttingen for his PhD. He graduated in virology in 2006 and after that moved to the Lower Saxony State Office of Criminal Investigation (Landeskriminalamt Niedersachsen, LKA) as expert for DNA-analytics and forensic science.

### **How did you become an expert at the LKA?**

‘Right after my PhD, I knew that I would not stay in academics, because of the bad future prospects for lifetime jobs. During my post-doc, I looked for various job offers, did three job interviews and got the opportunity to choose between two jobs - with the final decision for the job at the LKA Niedersachsen.’

The job offer was announced in a journal named "WILA-Bonn Arbeitsmarkt". I was very surprised that the LKA Niedersachsen searched for scientists this way, because there were rumours that you get these jobs only via good connections.’

### **What are your tasks as an expert?**

‘After an intensive skill adaptation training, I began to write official expertises. This is the most time-consuming part of my job now. Besides that, I am responsible for analytical instruments like liquid handling systems, PCR and qPCR

workstations and anything coming along with that. So once a system is working to our satisfaction (mostly more than a year after purchase), my job is troubleshooting when something goes wrong. If there are no problems with the instruments, I write the official expertises: summing up analytical results, drawing my conclusions and doing the paper work.’

### **What do you like most about your job?**

‘I like my job especially because of the colleagues and the fact that you get information on crimes in more detail than most other people. Of course I also like the science part – and although not too much is changing over the years, if there is something new, it means a lot of work and reading (e.g. DNA phenotyping as a new challenge).

Also, working in the government sector gives me a strong feeling of security. In addition, I can work two days a week from home. So the family-work balance is very comfortable.’

### **Did you take any special courses/trainings that you needed to meet certain job requirements?**

‘I had a very intensive skill adaptation training, but the basic skills I learned during my PhD (like PCR etc.). Many new techniques were developed after my employment, though, so new candidates have to deal with a broader spectrum of knowledge.’

### **Any advice or remark for scientists who want to pursue this career?**

‘Scientists who want to pursue this career can do many things, like getting deep understanding in PCR techniques (STR, qPCR, SNIPs, mtDNA) or choosing the right programme of study (nowadays there are forensic courses available). Last but not least, you should be open-minded for something new, reliable, a teamplayer and tolerant to the restrictions that are part and parcel of working alongside the police force.’

## Mentoring in Göttingen

Elisa Buchberger

Finishing and defending a PhD thesis is an exciting time for every doctoral student. It means that we have spent at least 10 years at university in which we did not only become specialized experts in our field, but these years also equipped us with other skills, often called ‘transferable skills’. Nevertheless, the decision of what to

do next is for many of us a tough one and sometimes paved with questions and doubts – should we go for an academic career or change and pursue a career in the private sector. No matter which option is more appealing to us, there are questions coming along with it:

What does that actually mean to ‘stay in science’? Does it mean we

have to go abroad (again)? And how about building a career in science but also having a family? Being successful in academia often does not only rely on outstanding scientific achievements, so what other skills are necessary? Which decisions have to be taken strategically and what other responsibilities come with a career in science (for example tea-

ching, applying for third party funding etc.)?

And what if we decide to leave the academic environment? What skills do companies and industry specifically look for and do we have those skills? If not, where can we acquire them? We all may have a picture in mind how a specific career path looks like, but does that reflect the reality?

Senior scientists but also successful professionals outside academia often mention their mentors, when asked what had helped them to achieve their goals. And becoming a mentee is exactly what could help to guide you through your current position and to decide on which career fits best for you.

### Options for mentoring in Göttingen

The Göttingen Campus offers several options for mentoring, depending on the career plans of the respective mentee. Some mentoring programs are specifically tailored to

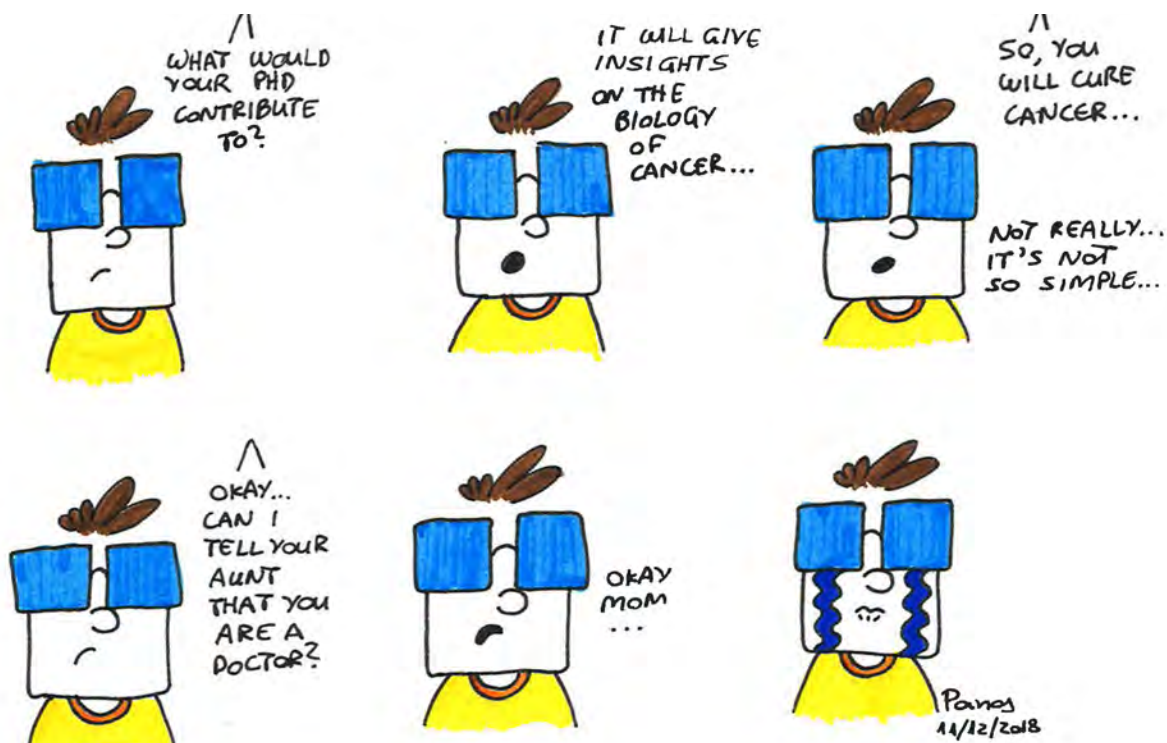
female students who aim to pursue a scientific career after their PhD. Another program is open for all and supports mentees in finding a career outside academia: **KaWirMento**, short for Karrierewege in die Wirtschaft (career paths into industry). Established in 2014 this one-to-one mentoring scheme aims to prepare PhD students or early post docs for a switch to industry. Detailed information can be found here: <http://www.uni-goettingen.de/de/kawirmento-programm/444677.html>.

**WeWiMento** (Wege ins Wissenschaftsmanagement) provides insights and networking opportunities for PhD students who would like to dive into science management. Apart from a lecture series it also offers a short guidance workshop, to develop an idea about what science management is, what skills are needed and how to find your way into it. <http://www.uni-goettingen.de/de/444696.html>.

The **Dorothea Schlözer Mentoring program** seeks to provide gui-

dance to late stage, female PhD students or Post Docs who would like to stay in academia. This one-year program held in English combines one-to-one mentoring with workshops and specific networking opportunities. You can find all information on this webpage: <http://www.uni-goettingen.de/de/361579.html>.

Apart from the above-mentioned Dorothea Schlözer Program, female early stage researchers (PhD students and post docs) in the natural sciences can also apply for the **Margaret Maltby Program**, which is offered by the University Medical Center (UMG). Similarly, it also combines one-to-one mentoring, coaching in small peer groups, soft skills training, like leadership or conflict management and networking events over a period of 24 months. If you are interested, check out the following link: <https://www.umg.eu/forschung/science-support/karriere-foerderung/mentoring-programm/>.



# The Margaret Maltby Mentoring Program - Interview with a Mentor

Elisa Buchberger

Prof. Hoyer-Fender, thank you very much for giving us an insight into mentoring here in Göttingen from the perspective of a mentor.

Prof. Sigrid Hoyer-Fender, a professor at the Department of Developmental Biology and mentor in the Margaret-Maltby Program, gives us some insights into her work as a mentor. She also serves as a kind of mentor in the Studienstiftung des Deutschen Volkes.

**Can you shortly describe for us in which mentoring program you are participating?**

I serve as a mentor in the Margaret Maltby Program, which I think was the first mentoring program here in Göttingen. But mentoring for me started when a student from the University of Stuttgart asked me to mentor her, which I thought was quite unconventional, due to the long distance. But it worked out well and around 2011 I joined the local program here in Göttingen. The Margaret Maltby Program is offered by the Medical University of Göttingen (UMG), but many natural scientists, mainly biologists, participate. So, I think it is important that next to medical doctors, also researchers coming from natural sciences serve as mentors.

**How does a typical mentee - mentoring situation look like?**

In general, the mentee chooses the mentor and the one-to-one mentoring is embedded in a program which serves as a framework. Still, there is a lot of flexibility. The basis is laid out with a so called 'mentoring agreement' where the mentor and the mentee decide on how often meetings will be held - for example once per month - and which topics should be discussed. Most importantly though, it is clear that everything that will be talked about is strictly confidential. Of course, the arrangement can also be stopped, if the interpersonal connection doesn't work out between mentee and mentor.

**What specifically is your role as a mentor?**

Broadly spoken, my goal is to support the mentees on their way to reach the next step in their career. More specifically, what I try to do is to hand over advice, offer points of views from outside and listen to whatever troubles or worries the mentee has. Problems that mentees need to talk about often include difficult situations in the working group, ranging from personal disagreements to having not enough lab equipment. Then there are issues with project financing or time constraints. I can of course not solve these problems directly, but I offer suggestions for how to deal best with the situation and talk about

ideas how the mentee can best face the situation.

Often, personal problems influence career decisions. In that case, I always offer an open ear and introduce as many points of views from the outside as possible. I try to make clear that the most important thing for the mentee is to decide what she really wants for her future and to develop personal goals. If that is sorted out, one can start to tackle the problems that come with it. It is important to note that I do not push the mentee into one direction when it comes to questions about career choices. No matter if the mentee decides to stay in academia or switch to industry, I'm happy to accompany people on both paths.

**The mentoring program that you take part in is specifically tailored to women. Why do you think do women profit from mentoring, especially when it comes to a career in academia?**

My experience is that women are challenged by particular, gender specific difficulties. For example, women tend to be more insecure and are afflicted by self-doubt. In addition, one huge problem is that especially in the natural sciences, there are too few female scientists in high-ranking positions that might serve as role models for the feasibility of managing both motherhood and professional career. Also, female PhD students deal differently with disagreements with their supervisors

or colleagues than a male student would do.

What I also experience is that many career opportunities will open because of networking. Having a drink or two after a talk or at a conference helps to talk to people casually and often job offers or collaborations arise from these networks. Women tend to do these things less often especially from the moment on when they are engaged in family affairs. Mentoring programs offer specific networking opportunities, also by building connections with other mentees, which are really helpful for the future career.

**In your opinion, what are the advantages of mentoring, or why should one consider joining a mentoring program?**

The most important benefit that I observe is that the mentees are much more self-confident after attending the mentoring program. Apart from the one-to-one mentoring, mentees report that especially the courses offered by the program to improve presentation or leadership skills are extremely helpful.

How do you think academia changed during these last years and does it get easier for women nowadays?

Academia, when I was a young scientist, was thought to come first, being a full-time, 7-days per week job. Thus, the commonly accepted view was that taking a break from research because of pregnancy and childcare prevented a scientific career. Nowadays, certain things get much easier. Programs that aim to

reintegrate scientists after having a baby are of huge value. Moreover, I do think that the perception of how much work is 'normal' has changed, also because young people in academia, including men, want to have a work-life balance.

**What do you personally gain from mentoring young people?**

Mostly, I am strongly convinced that mentoring is extremely important for young scientists at the beginning of her (but also his) career. It helps in getting self-confident, in setting career ambitions and in becoming strong to accomplish these goals. My own motivation being a mentor comes from the personal exchange with young scientists and helping them tackling the problems they are confronted with.

## The Margaret Maltby Mentoring Program - Interview with a Mentee

Ting-Hsuan Lu

We interviewed Dr. Susanne Schlick, alumna of the University of Göttingen and former mentee in the Margaret Maltby Mentoring Program, about her experiences as a mentee.

**Dr. Susanne Schlick, you attended the Margaret Maltby Mentoring Program. Can you tell us something about this program?**

I took part in the 2015 batch of the Margaret Maltby Mentoring Program which is offered by the

*Dr. Susanne Schlick was born 1989 in South Germany and raised in a small town near the Austrian border. Once she had graduated high school, she moved to Finland and studied Molecular Biology at the University of Jyväskylä for 4 years. There she obtained first research experience in a lab that studied Lyme disease. After that, she studied in the IMPRS-Molecular Biology in Göttingen. To find a much more applied subject of research, she joined the lab in UMG and generated Engineered Heart Muscle from human stem cells. She had her first encounter with mentoring program that supports young girls in high school that are interested in a career in the natural sciences (Cybermentor) which really inspired her. When she learned about the Program, she knew that she had to take the opportunity, because she was at a time when she really needed help to progress and develop.*

University Medical Center. This mentoring program specifically targets women in order to enhance

their career opportunities and develop into future female leaders in science and medicine.

Mentees come predominantly from natural sciences, medicine and psychology.

The program lasts for two whole years and is based on extensive training courses, small group coaching sessions, a mentor-mentee tandem and as an overarching theme it also includes networking events.

In the beginning, mentees are expected to search actively for a suitable mentor, approach the person and establish a mentoring tandem. The exact details of this tandem are up to the mentee and mentor.

During the two years, but also later, the program invites the mentees for networking events. They take place in either small or large settings, also including other mentoring programs from the university. I always tried to attend these events because the network was very helpful and it was nice to see people from my batch.

### **Can you tell us more about the training courses?**

The training courses are most time intensive and often take one and a half day, mostly Fridays and part of Saturday, which is very convenient because mentees don't miss

too much working time. But the UMG also supports the program by rendering it "work hours" or granting additional vacation days - if I remember correctly. This is particularly important for clinicians and for those who have bosses that are not very supportive of such extra activities. Unfortunately, this is often the case for scientific staff that do their PhD, as they are often expected to work night and day on their projects rather than obtaining professional skills. Luckily, my boss was generally supportive of any activity that allowed me to develop personally.

It should be noted that by accepting your spot in the program you are expected to attend a certain amount of courses. The program is an intensive mentoring program compared to many others and if you do not take it seriously, rather leave your spot to somebody who does. The courses include everything from career planning and project management to extensive speech and presentation training (for instance, several evenings over a timeframe of several weeks), conflict resolution and also training specifically for women who intend to have a scientific career at the university.

### **And the group coachings?**

There are also group coachings, which focus on a small group of five women that have similar backgrounds or aims. These groups are allocated at the first kick-off meeting when everybody gets to know each other. There are several meetings every couple of weeks, where mostly specific (also private) problems, conflicts and solution strategies are discussed. I would compare that to

a form of friendly "group counseling". Everything discussed in training courses and coaching is confidential within the group, hence trust and respect between the mentees are very important. This confidential atmosphere enables very open and fruitful discussions.

### **You also mentioned the mentor-mentee tandem. How did you find the right mentor for you?**

I have seen many different approaches to this. Some mentees looked very specifically for somebody, e.g. at conferences, others took recommendations, etc. The way mentors and mentees meet is usually equally heterogeneous. Some just call each other, others meet personally (sometimes including traveling to other towns), and again some more frequently than others. Some tandems only discuss career questions and strategies while others also include private matters. There are recommendations and guidelines on how to establish and maintain your tandem to make it easier for mentees and mentors. But in the end, it all depends on you.

In my case, I didn't find somebody really suitable in the beginning. After I defined what I wanted - I wanted a mentor employed in private sector, ideally in management, and ideally with child(ren). I asked Ulla Heilmeier, the coordinator of the mentoring program, for help. She suggested the most wonderful fit I could have imagined and I am eternally grateful for that!

My future mentor and me met once to get to know each other over a coffee and after just ten minutes we were sure that we would make a



© Susanne Schlick

good tandem. That was a great moment. She works for a biotech company here in Göttingen and she was able to give me a lot of advice and personal insights in her career, daily work and we also discussed private matters. Funnily we also share a passion for camping and windsurfing. We met frequently in the mornings before work for a coffee, which was very convenient. And although the program ended already two years ago, we still occasionally meet!

**What would you say are the greatest benefits of these programs?**

I benefited the most from the training courses and the mentor-mentee tandem. I obtained many new skills and could really develop on a personal level. I also actively planned my career with my mentor.

The courses I think had a great impact because my batch was really amazing. For me, it was like a vacation from PhD work every time I attended a course. I was always looking forward to the training weeks in advance. As the group of mentees was really nice and luckily very heterogeneous, discussions were very open and direct. I loved the atmosphere and we had a lot of fun (but we of course also did a lot of work). If you are open to learn from others and to utilize the constructive criticism in the training that is given to you then you will tremendously benefit from this program. And I did not only see my own progress but I also saw the progress in my peers in

many aspects: how they developed more self-esteem, how they approached their careers and also in improving only small details, for instance while giving a talk. In my case, I got caught on camera many times playing nervously with my hair when presenting. The other mentees pointed that out and we solved the problem by me using bobby pins or wearing my hair closed during presentations these days.

Honestly, the small group coaching was not my cup of tea. I just do not thrive in these “group counseling” sessions. Others however were quite happy with the coaching. So I am only speaking of my own experience.

The networking events were nice but the majority of my professional network certainly results from the trainings.

**You said you actively planned your career with your mentor. So did the program help you to find out what you really want to do with your career?**

Definitely. I think talking to my mentor and doing the career management course really did the trick. In the career management course, I had to define my strengths and weaknesses and also rank certain career aspects according to their importance in my life. Together with the discussions within my mentee group, it was an eye-opener to me. After the two years, I knew that I did not want to stay in academia.

**Is there anything you would suggest to further improve the program?**

I think it is quite good already. It focuses a lot on career planning, outside and inside of academia. For example, how to write a grant application or how to teach a course in the university. There are a lot of different options that you can choose from. If they would offer more courses, I don't think mentees would be able to attend them.

The current number of participants is also quite a good size for a group, because you can always meet the same people and work on what has been suggested to be improved in previous meetings. I enjoyed to see the same people again and to see how they develop. It is incredible to see their development after two years of presentation training, talking and even singing. And it is pretty cool to see how people have changed.

The coordination really put their whole heart into the program and I am really thankful that I got a spot within the program!

**I take it then that you would recommend the program to your colleagues or friends?**

Yes yes yes! Absolutely, it is the best thing I have done during my PhD. And this is why I am sitting here, to recommend everyone to join! The program is so much more than just attending a soft skill course. I still benefit from the network, not only professionally but also personally.”

# The Margaret Maltby Mentoring Program - An experience report

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Julia Gumula

Dr. Julia Gumula, another alumna of the University of Göttingen and former mentee in the Margaret Maltby Mentoring Program shared her mentoring experience with us.

"I have taken part in the Margaret Maltby Program two years ago and my career has gained a lot of momentum from that, I would say.

During my PhD, I did not know where to go afterwards: stay in academia, found my own business as a

business consultant or enter a company. For the academic career path, I had a wonderful supervisor during my PhD – so she was my role model. But for the business founding or the company career, I was lacking a person to talk to for sharing experiences and insights. Therefore, during the Margaret Maltby Mentoring Program, a former business consultant and the Chief Financial Officer of my new employer became my two mentors.

I am sure that I might not have gotten so much support, drive, credibility and power that I now have. I am part of a small team that has a huge task: transforming the corporate culture of the company towards an agile self-organized collaboration. Corporate Culture Change, such a task for a person who has just entered the company a couple of months ago – without the Margaret Maltby Mentoring program - no way."

## The non-scientific “aha moments”: My experience at the Dorothea Schlözer Mentoring Program

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Erika Avendaño-Guzmán

Before my PhD, I used to think that every scientific project consists of different phases starting from an experimental question and, with any luck, ending in a discovery. After some experimental work, results are collected and analyzed in order to formulate conclusions, hopefully leading to new findings. That was exactly what made science so awesome for me, the “aha moment” that makes you the only person in the world knowing a little something nobody else does.

I enthusiastically started my doctoral project, trying

to get from A to B. Apparently this linear and simplistic perspective of research is not that uncommon among doctoral students, generating discontent in academia. Nobody tells you in advance that deadlines might be unrealistic or that there will be technical difficulties to overcome. Negative results might look like backsliding and the question you started studying might change completely very fast. These are some common complications that deviate the way to B and instead might take you to C, D or E. Being enrolled in a PhD program is

a character-building experience per se and the doctoral degree refers not only to a specialist but to an autonomous problem-solver.

By the time I joined the Dorothea Schlözer Mentoring Program, I had already faced some of the challenges listed above. I constantly asked myself what I could do better inside and outside the lab. Topics such as career perspectives, work-life balance and time management sounded without a doubt interesting but seemed secondary to my doctoral project. At first, it wasn't easy to integrate all of those matters



into my activities and routine, but I knew it was necessary to develop a strategy to cope with my scientific projects while at the same time reaching a certain equilibrium between work and private life.

It was only after being part of a committed peer-coaching team and meeting regularly with my mentor that the non-scientific “aha moments” arrived. I was part of an interdisciplinary and multicultural team of fellow PhD students dedicated to supporting and coaching each other. Sharing experiences with them in a safe atmosphere, under an organized scheme and protected by a confidentiality agreement, my attention was drawn to many career development issues that I had neglected for a long time. The simple fact of meeting peers, who were working in other fields and projects, but were going through essentially similar challenges, gave me a totally new perspective of how to deal with the everyday events occurring not only at the bench but in general in my life.

The experience with my mentor was eye-opening. Without directly interfering or being involved in my scientific area of research, she provided guidance by making evident the tools that I already had and the ones I needed to build up. Her support

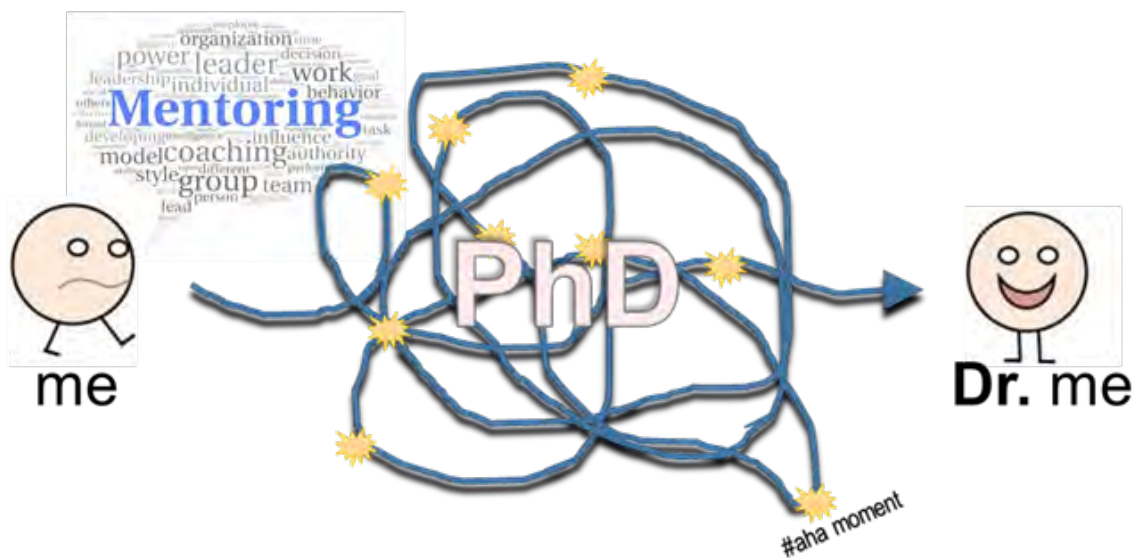
was always independent from my research institution and based on mutual respect and trust. One of the best parts of the mentor-mentee relationship was the feeling of reciprocal professional and personal growth. I felt very comforted when my mentor shared with me the way our meetings positively impacted her as well.

In addition to mentoring and coaching, a third cornerstone of the program focuses on developing and sharpening specific soft skills through workshops and networking events. Facts such as “failure is inherent to scientific research” and “learning to say no is important” are just some of the non-scientific “aha moments” that I came across, thanks to the openness and involvement of the other participants at the trainings and group discussions. I was supposed to know such facts but in practice it was so easy to overlook them.

The trainings covered a wide variety of themes from dealing with

crises to self-presentation. They all introduced interesting techniques and team exercises but most importantly, they provided moments of retrospection and potential areas for improvement. A key message for me was that the driver sitting at the front of my car can only be me. The trainer, team, colleagues, supervisor, family and even friends can only be co-pilots.

The program showed me that having an external and unbiased party pinpointing potential weaknesses and strengths is a powerful tool. I obtained feedback, advice and the opportunity to improve my soft skills in exchange for being open and willing to contribute in a give-and-take association. Mentee-mentor, coachee-coach, trainee-trainer relationships, they were all helpful to develop resilience and creative solutions. Everybody is confronted with crises, it is just a matter of how to handle them. In my case, I just feel better equipped after those flashes of self-discovery, my own “aha moments”.



Last slide of her presentation at the closing ceremony of the 6th round of the Dorothea Schlözer Program. Iterations and “aha moments” of my PhD © Erika Avendaño-Guzmán

# Dinner Hopping 2018 from an organizer's point of view: From the idea to the actual cooking event

Katharina Vollheyde

The idea to organize a GG-NB-wide Dinner Hopping was born after I took part in the university-wide Dinner Hopping. I liked the idea of meeting other PhD students outside the lab and chatting with new people while enjoying delicious food. Franziska, a former student representative of the IMPRS Molecular Biology and friend of mine, was immediately hooked by the concept of a GGNB Dinner Hopping, and she volunteered to help with the organization.

We started planning the event in summer 2018 facing the first challenge - finding a date. Saturday 17 November seemed like the best choice to us, since it allowed us to combine the Dinner Hopping with the ceremony of the 10th anniversary of the GGNB. Next, we had to address several other questions: How do we want people to register? Which information do we need from participants? How much time do we need to calculate for each course and for changing locations in between? Do

we want to have a get-together with all participants afterwards? And we also had to solve the rather challenging question of how to assign the cooking teams to the different courses and how to make sure that no two teams accidentally meet twice.

names and addresses of where their other two courses would be served, as well as information on the get-together, which would take place after the dessert at BARcelona.

With this, our organizational part was over and we could relish



Dinner hopping © Florian Mann

In the end, we designed an online registration form together with Kirsten from the GGNB Office and 30 dinner hoppers registered, either as cooking teams or as single participants. All single participants were assigned to teams and all 15 teams to one of the three courses. It took us some time to figure out a good system for the distribution of the teams to the cooking locations. But finally, we sent out individual emails to all participants, stating which course they would have to serve and which special dietary requirements they would have to consider for their guests. They further got the

great food and enjoy the Dinner Hopping as participants.

Since each event is only as good as its participants, we want to thank all dinner hoppers for making it such a wonderful, inspiring and delicious event! Due to a lot of positive feedback we received during and after the Dinner Hopping in November, we decided to repeat the event. The second GGNB Dinner Hopping will take place on 27 July 2019.

We are really looking forward to another wonderful cooking night in July!

# Dinner Hopping 2018 from a participant's point of view: Fusion Cuisine and Göttinger Engel

Dinner Hopping is about cooking together, changing kitchens for every dish and meeting new people. So, for our first GGNB Dinner Hopping, we were expecting an evening with plenty of good food and exciting conversations.

It all started with finding a cooking partner who was motivated to prepare a course for four strangers. Then, a few days before the big evening, each team was allotted either starter, main course, or dessert. Since we enjoy baking a lot, we were happy to hear that our team would be responsible for the dessert. We decided to go for a delicious brownie tart, topped with berry sauce which we prepared in the afternoon before the dinner started.

Hungrily we hopped on our bikes, riding towards the hopefully delicious food. Unexpectedly, we were fooled by Göttingen's street maze and it took us a while to find the place for our appetizer. A German couple warmly welcomed us when we finally made it to the right doorstep. Fresh salad and garlic bread were already waiting for us on the table, served with tasty red wine. When the two other guests arrived we realized that the whole group was German, however, we were all coming from different regions in Germany - one of us was from Nuremberg, something that everyone could guess from the typically rolled "R".

As main course we were served fusion cuisine, combining typical Indian specialties with Arabic influences and French elements. We even got to taste a self-made shot called "Göttinger Engel", invented by two GGNB students.

Luckily, we had to ride our bikes to the next place, burning some calories and making space for the final course of the evening - our dessert. The guests already awaited us eagerly, looking forward to a sweet final for

Nadine Übelmesser the Dinner Hopping. Bit by bit we munched the brownie tart. Enthusiastic about the present beer pong table, we also started a professional beer pong contest. Some beers later (and being defeated by the guys with the bow tie), we arrived at BARCELONA meeting up with all "Dinner hoppers". There were already known faces from starter and main dish, but also more people from different cooking tandems, talking about their food experience. For some of us the night ended singing and dancing in the JT-Keller.

All in all, the Dinner Hopping gave us the opportunity to connect with interesting people coming from different countries and cultural backgrounds. As Jan Karon already stated: "Food is a great way of communicating." – We totally agree and we are looking forward to our next Dinner Hopping.



## Recipe for Göttinger Engel

- 1cl wodka
- 1cl water from pickled cucumbers
- 2 slices of carrot
- 1 leaf of rucola



Shot from Dinner hopping © Florian Mann

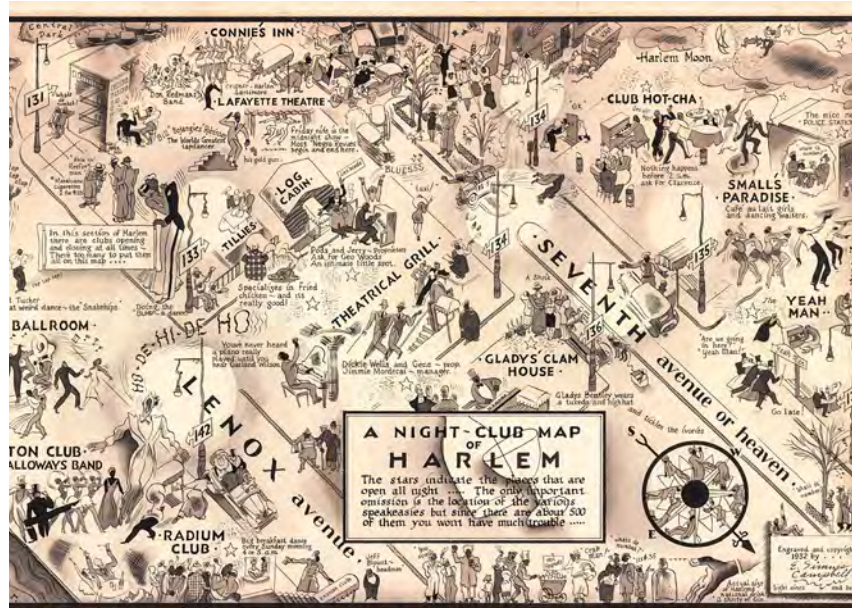
# Swing / Lindy Hop - One of the dancing groups in Göttingen

Nikoloz Sirmpilatze

Swing? Lindy what? You might have come across these terms, but chances are you don't exactly know what they mean or how they relate to each other. A little bit of history can be of great help here. From the 1920s to roughly the 1940s, the US were consumed by a dancing frenzy, at a scale unimaginable to us today. Dancing was THE mainstream form of entertainment and a key aspect of social interactions. Dances like Charleston, Balboa, Collegiate Shag and Lindy Hop were all the rage. These dances mutually shaped and were shaped by the most popular musical genre of the time – swing! The music's characteristic 'swinging' feeling made it irresistible to dancers. It was performed by so-called 'Big Bands', led by legends like Duke Ellington, Glenn Miller, Benny Goodman, Count Basie, Louis Armstrong, and others. The place to be was Harlem: fueled by the rich musical and dancing traditions of the local African-American community, Harlem night clubs were echoing with the sounds of trumpets, saxophones and stomping feet, as documented on this amazing map from 1932. On the map's left edge, you can see the famous 'Savoy' ballroom, and below it, in fine print: "Doing the Lindy Hop". The 'Savoy' was the epicenter of this fast, energetic, acrobatic, and frankly jaw-dropping dance. Don't take my word for it – see for yourselves by searching "Lindy Hop Hellzapoppin" on YouTube.

Sadly, all things come to an end, and so did the 'Golden Swing Era'. Soon after the end of World War 2

so 'hip' in fact, that it even snuck its way into Göttingen.



A Nightclub Map of Harlem © E. Simms Campbell (1932)

the Lindy Hop fell out of fashion, and gradually faded into obscurity. Some decades down the line very few people were even aware of its existence, and 'Savoy' was no more. But then, in the 80s, the unexpected happened: groups of young dancers from Sweden, UK and US, discovered old videos of the Lindy Hop – including the 'Hellzapoppin' one – and got obsessed with the dance. Tracing back its origins, they were inevitably led to Harlem. There, they frantically searched for survivors of the swing era, tracked them down, pulled them out of retirement, and asked them to teach. And so it happened: the 'oldtimers' passed on the torch and ignited the Lindy Hop revival, which really gained track during the 90s. Nowadays, Lindy Hop is 'hip' again –

If some old videos managed to convince a bunch of youngsters to travel across the world and start knocking on doors, there has to be something to it. But besides the cool backstory, are there other reasons to give Lindy Hop a try? I can share some of mine. First and foremost, it's the music: I happen to be a fan of swing music and Lindy Hop allows me to experience as it was originally intended – throughout the body. Dancing Lindy is akin to playing improvised jazz: there are no rules, and no mistakes. As long as you respect the rhythm, you can "swing" it any way you want. Secondly, it's the social aspect of the dance: the exhilarating feeling of getting to experience a great piece of music together with another person, being creative together, and communicating your

mutual enthusiasm without words. Unlike many other dances, you don't need a fixed dancing partner for Lindy Hop: partners switch all the time, and everyone dances with everyone else. Needless to say, this is a great and effective way of meeting people outside your social bubble – something we as PhD students

often struggle with. Assuming that I have convinced you, you might wonder where can you learn to dance it? Luckily, the vibrant Göttingen swinging community has you covered: regular classes organized through the Studentenwerk, weekly 'tasters' to just give it a try, and even yearly festivals that attract dancers

from around the world. You can learn everything you need to know about these on the website <https://www.swing-in-goettingen.de> (it also includes a handy event calendar). So, when the Göttingen sky (or your PhD) hits you with the blues, you can answer with a swing! See you on the dancefloor.

# Standard and Latin dancing in Göttingen

Vlad-Constantin Milinovici and Victoria Ghadiri

Standard and Latin dances cover a wide variety of styles that share one big and important commonality: one can only really engage in it with a partner. We originally expected this to be a hindrance for many people - regarding the social aspect of asking somebody out, not only to do a dance, but to learn it together. However, the demand for ballroom dancing courses is high in Göttingen.

Although Standard and Latin dances are often taught together nowadays, their origins could hardly lie further apart from each other. While Standard dancing originated in the renaissance around the 16th century as a social game for aristocrats in France and Italy, most Latin dances have their roots in indigenous ritual dancing in Latin America with strong Spanish and Portuguese influences (originating from the time of the colonialism) and some African influences that were added around the 19th century.

Judging from the stance, one might not be able to see differences

between the dancing styles at first glance. Once the music starts playing however, it becomes obvious that the Standard dances (consisting of dances like waltz, tango and foxtrot) have a close hold that is not changed throughout the respective dance. The Latin style dances on the other hand (consisting of dances like cha-cha-cha, rumba, samba and jive) live from fast turning and isolation of certain body parts.

If you're interested, you should grab a partner and try participating in a course - regardless of your age or body structure, everyone can try ballroom dancing. My philosophy is that everyone can learn how to dance. Make sure you choose a course with teachers that have enough time for you, since only seeing the steps will not teach you how to make them work for you and your partner. Our courses, located at the Studentenwerk offices on the main campus, therefore consist of a beginners' course, an advanced course and an advanced+ course. In the beginners' course you learn the basic steps of a variety of up to eight Standard and Latin dances. The ad-



vanced course gives you a variety of steps for every dance you learnt in the beginners' course. The advanced+ course is conceptually planned to teach you how to make the steps you learnt in the other two courses feel smoother and give you more control and choices in your dancing style.

Since we want to make sure that every participant gets enough attention to develop, the places to our courses are limited and allocated by the first come first served principle. Registration is possible here: <https://www.studentenwerk-goettingen.de/kultur-events.html>

Unfortunately, a registration without a partner is not possible. If you don't have a partner but still want to participate in a dancing course, don't hesitate to write us an email ([vlad.tanzkurs@web.de](mailto:vlad.tanzkurs@web.de)).

# Dreamcatchers – Göttingen’s first international Open Art Stage

Jenifer Rachel

What brings together two women, working in Frankfurt and Central America? A love for the arts, and a fondness for Göttingen. Dreamcatchers is an event conceptualized and organized by two PhD students, Nina Grassnick and Aspasia Werner. It is touted to be Göttingen’s first ever International Open Art Stage, and attracts brave and young internationals to exhibit their artistic talents on stage. Dreamcatchers takes place once every two months at the Nörgelbuff. Each performer gets 7-10 minutes of stage time to present what they are passionate about. Nina and Aspasia sat down for a chat with the GGNB Times, where they spoke about how they came up with the idea of an open art stage, what they hope to inspire, and memories from the events so far.

**Tell us a little about yourselves, where do you come from, and what do you do in Göttingen?**

**Nina:** “Aspasia and I started out with our doctoral projects at the Global Foods research training group in Göttingen in April 2016. We are currently in the final year of our PhD. I am originally from Lower Saxony; I was born close to Hannover. I did my masters in Göttingen in International Economics with a focus on Development Economics. I really liked this city! However, after my masters I left to Frankfurt to try something else, but I felt like I had left my heart in Göttingen, so I came back.

During my masters, I was already working for Global Foods as a student assistant, and when there was a call for the next PhD cohort, I applied and came back to Göttingen.”

**Aspasia:** “I also did my masters here in Göttingen in Agriculture. I didn’t want to stay, not because I didn’t like the city, but because I felt like I had had enough of the student life. I worked in Central America for two years, but life just brought me back for the PhD and I’ve been here ever since.”

**How did you conceive the idea of Dreamcatchers together? Where did the original spark come from?**

**Nina:** “Global Foods has a lot of funding for female career support, so they offered a workshop in Amsterdam, in March 2018. It was a weekend of creativity for women and taught us how to use this creativity in our scientific endeavors. During my PhD I only worked with data which was unfulfilling for my creative side. I do theatre on the side and also paint, since I always feel like I am not focusing enough on this side of me. This was the impetus that pushed me to attend the conference in Amsterdam. We spent the weekend there and we had to come up with a creativity project. Aspasia and I shared a hotel room during the conference and we really hit it off. We spent a lot of time brainstorming, and came up with the idea of Dreamcatchers.”

“In the six-hour train ride, on the way back from Amsterdam, we realized that the open arts stage is an aspect that is somehow missing from the cultural fabric of Göttingen, and we wanted to do a similar concept here. Our research group here is super international, so we converse in English but when we go to poetry slam or any other creative event, it was always in German. However, this city is so international, so we thought it would be a good idea to combine all kinds of art forms and give the performers the opportunity to present their art in any language they wish. We wanted to have a small event just with our friends. Initially, we looked for a venue somewhere in the university, which proved to be very difficult, since there is a lot of paperwork to fill out.”



Logo of Dreamcatcher © Dreamcatchers

**Aspasia:** “Therefore, now we were in the situation where we decided to organize the very first Dreamcatchers event, but we had no space to host it in. We asked a lot of people but the responses were either negative from the get-go, or very vague. At this point, we doubted if

this was a good idea at all. One evening I was at a reading event at the Nörgelbuff. I thought I would ask one last time to the Nörgelbuff staff and that would be the last time I approach someone for space to host our event. And he was so enthusiastic! I then conveyed the option of Nörgelbuff as a possible venue to Nina and from then on, it just worked out."

**What steps did you take in transitioning from finding a venue to the final organization of the event?**

**Aspasia:** "We were very blessed because the sound engineer at Nörgelbuff was very taken by the first open arts stage night. The talents on the stage were so extraordinary. He was a big driving force who helped us make this into a regular event."

**Nina:** "Yes, he also does the open mic nights at the Nörgelbuff, but he said this was something very special. So we trusted his judgement and worked towards making this a regular event. After the event, even if we feel that it did not go well, he is ready to lift our spirits up. He is our inspiration. We are a frenzied mess before the event, while he is so calm. He also puts up photographs that he makes himself, does music, painting etc. He's part of our team."

**Aspasia:** "The first night was one of the most beautiful nights. 80% of the people were our friends. We invited one of the women from the workshop in Amsterdam and she came to support us. There was so much love the entire night. We were so happy the whole night, I'm glad

there were no pictures taken because we would have looked crazy!"

**How do the differences in your individual personalities help to shape the organization of the event?**

**Aspasia:** "The reason this event works so well is because somehow, Nina and I are the same, and yet different. Nina can do all the organization; she is very dedicated towards the details. Everything I can't do, Nina can. My talents lie elsewhere. For example, if I see you performing on the street and I like what you do, I am not shy. I will encourage you to get on stage and my passionate appeal has convinced several people to do so. The inherent difference between us is that I am aggressive, while Nina is so polite (laughs). When they see Nina, their hearts open."

**Nina:** "Aspasia always takes care of the artists, she always gets on stage and hugs them. This is part of the reason why we get repeat performers, because they feel at home. They're part of the family. Aspasia is very good at giving them this kind of love. The second Dreamcatchers night was completely open, so on the day of the event, only three people had signed up. Aspasia went around the city, the same day and she found an awesome magician, who completely rocked the stage. She also urged everyone who walked in to perform. Several people spontaneously got on stage and they were all amazing."

**Aspasia:** "That's also a big factor because if I had organized it alone, I couldn't have done it. It is really this

unique combination that makes it possible. We both want the same things, but we have different ways of reaching it, that is what makes this organization possible."

**How did you come up with the name 'Dreamcatchers'?**

**Aspasia:** "We were thinking it should be a catchy name, and we came up with dream catchers (laughs). At one point we were brainstorming and we came up with the name dream catchers. It was a good representation of what we wanted to do, we catch the dreams that are out there and we give them a stage."

**Is there any incident that really stood out to you during any of the Dreamcatchers nights?**

**Nina:** "I like that we are creating a safe space. The first night, there was a person who recited a poem in Chinese and you could sense the respect from the audience, although not many people could understand it. And someone else, sang in Urdu and played the sitar and it was so beautiful. I sometimes feel that in daily life, this respect doesn't exist. I like that on this one night we can share all kinds of art and languages. We can all be global citizens on this night, and the safe space is preserved."

To get the latest updates about Dreamcatchers events, check out their Facebook page!

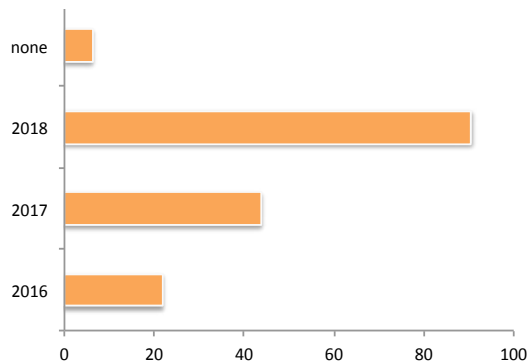


# Readers' Review

## Introduction:

We're looking for improving your reading experience. Here we have some feedback from some of you. Thank you very much for sharing your ideas. We're always happy to know what we're doing right and where we're going wrong. Now, let's see how we did for the pervious issues!

## Which editions of GGNB Times have you read?



## Overall Performance (Highest score: 5)



- Content of articles 3.6
- Language quality 3.9
- Photographs 3.8
- Layout 3.6



Great work so far!

The photocontest is a great idea. The section on science could include more articles about individual projects of PhD students. The balance of the sections is very good and the layout, too.

more sharing articles digitally (facebook)

Stay as enthusiastic as you are!

I wish GGNB Times would publish also more critical articles about the problem PhD students face in their PhD or in their career pace and how to overcome these problems.

You are doing a good job!

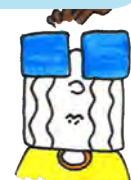
Be more present? Found the newsletter by accident.



Having more scientific data or information presented in a comical manner would add to the quality and perhaps increase readership by sustaining reading interest.

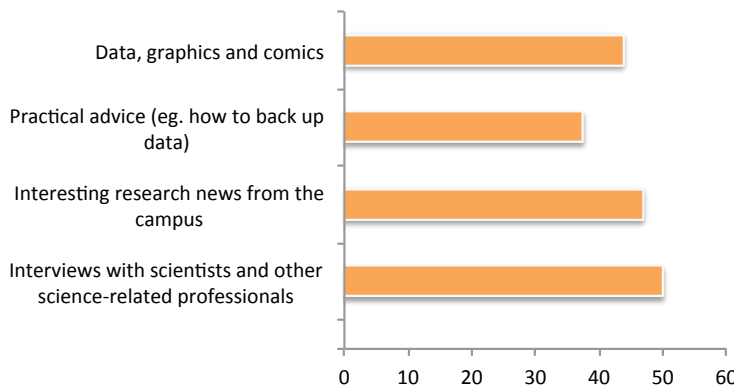
It is really fun to read it especially when you happen to see some familiar faces. Good job, guys! Keep on doing it!

I think it is a good publication.

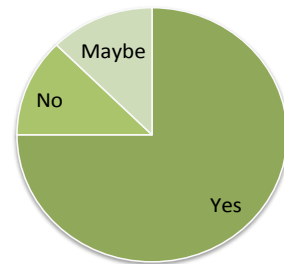




### What would you like to see more of?



### Would you like to see GGNB Times covering more serious news on campus?



I would like to read more general news.

I really like it, I use it to know what is going on in other labs.

I don't have anything to add.

The main problem I found is the accumulation of random articles and topics. At least that's how I perceive it. What might be better and make it potentially more interesting, is to dedicate each issue to one big general scientific topic. Then one can go more into depth (which I miss for most articles). This will lead to more interesting articles, going beyond trivial statements and just-so-stories. I think the idea of having such a newspaper is fantastic, though.



It's nice :)

I am happy with how stuff is done.

I really like it, I use it to know what is going on in other labs.



I like the overall concept and idea behind it. I must admit that I only skim through the magazine, but I always find an enjoyable read.



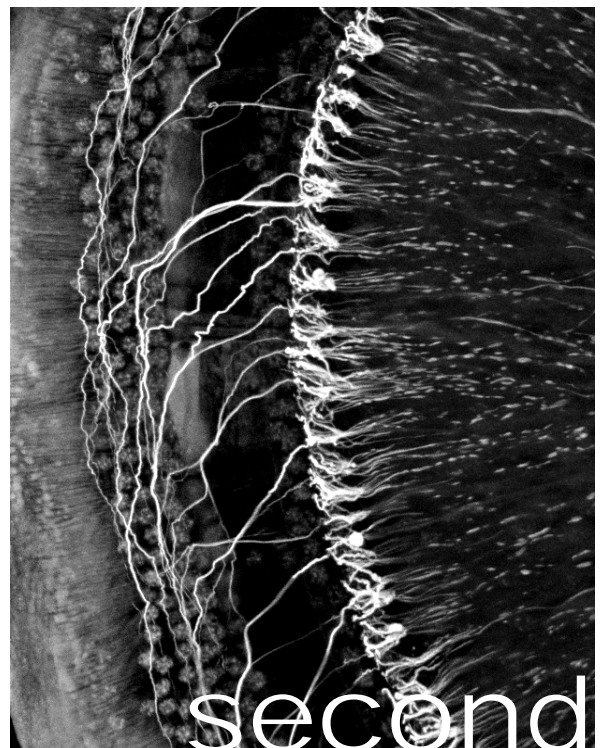
© Danial Arabali

**Danial Arabali** With no doubt "Brain" is an interesting object for researchers from a neuroscientific point of view, but at the same time it is a source for artistic behavior. Our brain contains billions of cells which interact with each other in a complex network. This complexity is the drive for artistic creation per se, but itself has the capacity to sit as a model for artistic inspirations! The presented work is a painting from a series inspired by the beauty of brain's neuronal network, which I started during my PhD in GGNB Systems Neuroscience program (for more please see [www.danialarabali.com](http://www.danialarabali.com)).



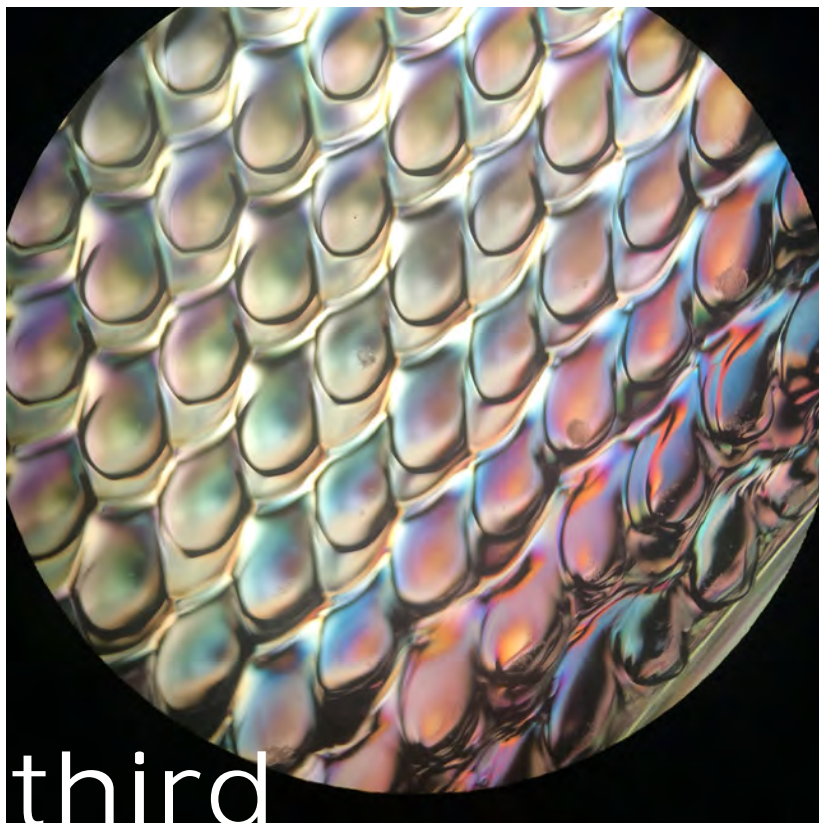
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**Özge Demet Özçete** This cochlear whole-mount image, immunolabeled against neurofilament, shows the innervation pattern of the auditory nerve to the hair cells in Organ of Corti. Hair cells are responsible for sound amplification and encoding. They transmit the sound information to the auditory nerve.



© Özge Demet Özçete

# Photo contest



*Cera-Alexandra McDonald* mouse embryoid bodies in a microwell dish.

© Cera-Alexandra McDonald

The winner received  
a Nikon Coolpix  
W100 kindly  
donated by Nikon



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