

# HUMBOLDT KOSMOS

*Research – Diplomacy – Internationality*

**DEUTSCHE  
VERSION:  
BITTE  
WENDEN**



## **TO THE STARS**

How blue-green algae  
make Mars habitable

## **ON THE GROUND**

How psychology helps to  
combat invasive ants

# Communicating science

**Between preprint and shitstorm:  
ways out of the communication crisis**

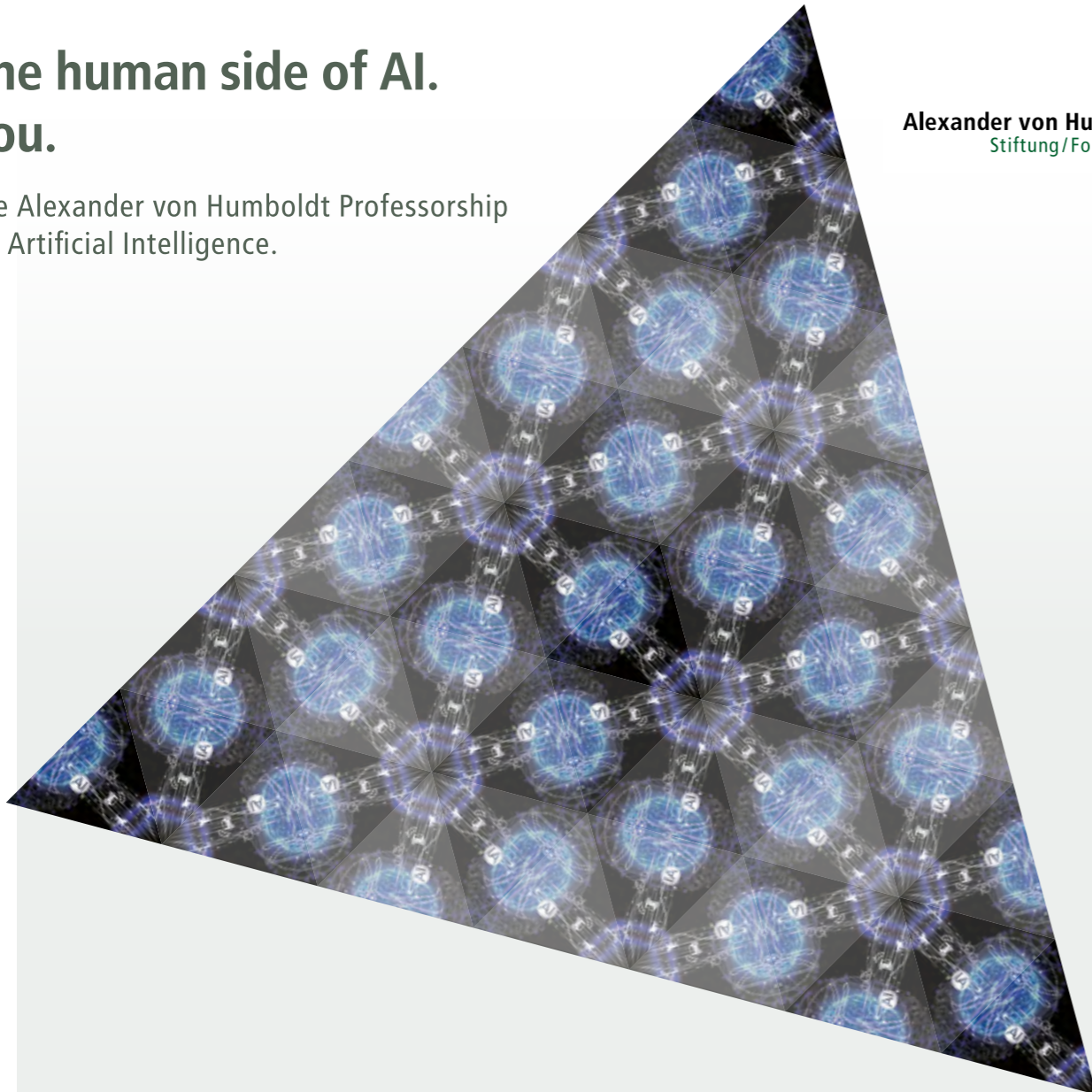


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*We welcome the synergies between Alexander von Humboldt Professorships for Artificial Intelligence and research projects being funded through the German Research Foundation's strategic funding initiative in the field of Artificial Intelligence.*

Think **Humboldt.**



**TAKE HEART!** You don't need to know anything about music to do shape-note singing. It's all about taking part and enjoying yourself.

## WITH A FULL VOICE

In the picture you can see me at a shape-note singing session in Munich – pre-Corona when collective singing was still the norm. Shape-note singing is a tradition that is particularly widespread in the southern states of the US. It derives from “The Sacred Harp”, a tune book dating back to 1844. The noteheads are written in the form of triangles, squares, circles or diamonds, which are supposed to make it easier to sight-read even without any musical training. A very egalitarian approach in my opinion: the aim is not to perform perfect concerts but to enjoy singing with others from the bottom of your heart. And this means that instead of facing the audience, you face one another in a square according to whether you are a soprano, alto, tenor or bass.

I am an ethnomusicologist. Music helps me to understand societies and human experience better. Looking through the musical window gives me a more profound insight into how the people affected experience global phenomena like climate change, migration or political unrest. And I am convinced that we can only grasp other cultures' musical traditions if we experience them ourselves. When I became a professor in Würzburg in 2017, I therefore decided to develop a course with a practical module. Shape-note singing was the first course I organised. There are also courses on African and Arab music, and we have even had Franconian folk music.

I myself first encountered shape-note singing during my studies in the United States. When I then went to Ireland

in 2009, I offered a course at the university there and it was a great success. In Ireland, a real movement grew up. We met everywhere to sing, even in pubs. We shape-note singers get together for whole days or weekends for conventions, sometimes with more than 100 people. Not during the Corona pandemic, of course. If possible, we sing outdoors in smaller groups. We've also tried singing together online, but that is quite difficult because of minimal time delays. Sometimes, just one person sings aloud while everyone else mutes themselves and sings along. It is not ideal, but better than nothing!

In my research, I also study the social and cultural factors that influence creativity. In shape-note singing, I regularly observe that it is more important to sing with a full voice than to hit every note properly. That takes away the fear; the joy of singing is what counts and people feel freer to express themselves. For me, that is a key to creativity. ●

*Recorded by TERESA HAVLICEK*

**PROFESSOR DR JUNIPER LYNN HILL** from the United States holds the Chair in Ethnomusicology at the University of Würzburg. In 2007/2008, she was a Humboldt Research Fellow in Bamberg. In May 2021, she was selected as a scout for the Humboldt Foundation's Henriette Herz Scouting Programme.



Photo: Henning Mack

Dear readers,

Science communication is a bit like a roller coaster ride: delight and terror are never far apart.

On the one hand, scientific literacy, the much-cited basic general understanding of science and its workings, has undoubtedly grown during the pandemic. Try it out for yourself at your local supermarket: ask any random person near the cold display cabinets about Covid-19. You will very likely be rewarded with an informed lecture on aerosols, mRNA vaccines and the vagaries of the latest virus mutation.

On the other hand, you might also encounter a determined anti-vaxxer who rails against state interference and even tells you about a large-scale conspiracy with Bill Gates pulling the strings in the background.

Science communication lies between these two extremes. It has become infinitely more difficult since the spread of fake news in parts of the media and politics has increased and filter bubbles on social media have raised conspiracy theories and aggression to new levels. The situation is exacerbated by the long-standing crisis in heritage media and science's home-grown problems, such as publishing studies prematurely.

Read more about these challenges, how researchers deal with them and how good science communication can flourish nevertheless in this edition.

**GEORG SCHOLL**  
Editor in Chief



- 03 HUMBOLDTIANS IN PRIVATE  
With a full voice
- 06 BRIEF ENQUIRIES  
What drives researchers and what they are currently doing

COVER ILLUSTRATION Martin Rümmele/Raufeld Medien



**FOCUS**

- 12 The hot topic  
*Why good science communication is so difficult*
- 21 Overhasty science  
*Guest commentary: How research needs to change now*
- 22 "You can't calculate it"  
*Interview: Communication researcher Hektor Haarkötter on strategies to counter shitstorms*

IMPRINT HUMBOLDT KOSMOS 113

**PUBLISHER** Alexander von Humboldt-Foundation  
**EDITOR IN CHIEF** Georg Scholl (responsible),  
Teresa Havlicek  
**EDITORS** Nina Hafenegger, Ulla Hecken,  
Lisa Purzitza  
**ENGLISH TRANSLATIONS**  
Dr. Lynda Lich-Knight

**PRODUCTION & GRAPHICS** Raufeld Medien GmbH  
Nina Koch (Project Management),  
Daniel Krüger (Creative Direction), Karo Rigaud  
(Creative Direction), Carolin Kastner (Art Direction)  
**FREQUENCY** twice a year  
**CIRCULATION OF THE ISSUE** 44 000

**PRINT** Bonifatius GmbH, Paderborn  
**ADDRESS**  
Alexander von Humboldt-Stiftung  
Redaktion Humboldt Kosmos  
Jean-Paul-Straße 12, 53173 Bonn, Germany  
presse@avh.de, www.humboldt-foundation.de  
ISSN 0344-0354



Photos: Humboldt-Stiftung/Julian Maehrein,  
Christiane Heimcke, Illustration: Martin Rümmele

- 24 FOCUS ON GERMANY  
The Communication Boom
- 28 CLOSE UP ON RESEARCH  
The Martian
- 32 NEWS
- 34 THE FACES OF THE FOUNDATION  
A who's who of the people behind the scenes  
at the Humboldt Foundation



## HOW DO PLANETS COME FROM DUST, MS PINILLA?

Stars, dust and baby planets are the orbit of astrophysicist Paola Pinilla's research. With the help of high-performance telescopes on Earth, she regularly visits delivery rooms in the cosmos, observing protoplanetary discs of gas and dust that rotate around young stars. The gas and dust are left over after a star is born; they then collect in the discs, from which new planets are formed.

The dust particles in these discs are microscopically small and composed of minerals. They are coupled with hydrogenous gas which enables them to move within the discs. When they collide, the particles bond, collect additional dust particles, increase in size and are compacted by the collisions. Eventually, pebble-like entities known as planetesimals are formed, the precursors and building blocks of new planets. "We want to fully explain the physical conditions under which new planets are born, as well as the factors that affect their diversity," says Paola Pinilla, outlining her research, which combines observational data with model calculations.

As gas is normally invisible, it is hard to observe. Pinilla therefore relies on numerical and dynamical simulations of the gas to investigate the conditions and physical processes inside a protoplanetary disc. The angular momentum within the disc, magnetic fields, low gravity and the speed at which the particles collide are all factors that play a role. Paola Pinilla assumes that the next five to ten years will bring revolutionary observations of new planets, which will also take her closer to her personal goal: to understand how dust was once the origin of our solar system, including our Earth. ● *Text* ESTHER SAMBALE

Sofja Kovalevskaja Award Winner **DR PAOLA PINILLA** heads "The Genesis of Planets" research group at the Max Planck Institute for Astronomy in Heidelberg.

## HOW DO YOU INTEND TO OUTSMART INVASIVE ANTS, MR CZACZKES?



Photo: Humboldt Foundation/David Spaeth

**They travel the world unnoticed on ships or lorries, hidden in the earth in a flowerpot or in a crate full of fruit. The spread of invasive ant species is almost impossible to prevent. But in alien ecosystems, they can cause huge damage because indigenous species have not learned to protect themselves against them.**

The behavioural biologist Tomer Czaczkes investigates how Argentine ants make decisions. He would like to find out whether and how you could use expectation management to outsmart invasive ants. To this end, for the first time, he incorporates their cognitive abilities. "With people, we are very good at using psychological tricks to make them buy things they don't really need or even want," he says. He is searching for similar mechanisms in invasive ants, such as making them carry food laced with poison into the queen ant's colony instead of leaving toxic food well alone. In the end, the only remedy for inva-

sive ants is to get rid of them again, Czaczkes explains. In one experiment, he already ascertained that when ants find food with a lower sugar content than they had expected, they stop feeding and deposit fewer pheromones with which to attract other ants, or none at all. But when they find food with an unexpectedly high sugar content, the very opposite happens and the ants deposit their scent particularly strongly. "Just like humans, ants can apparently experience enthusiasm and frustration," says Czaczkes. "I want to find out whether we could utilise psychological effects like these to fight against invasive ants." ●

*Text* **MARLENE HALSER**

**DR TOMER CZACZKES** became a Humboldt Research Fellow at the University of Regensburg in 2013. He now heads a junior research group there, having been awarded an ERC Starting Grant in 2020.



Photo: Humboldt Foundation/Nikolaus Brade

## HOW DO YOU MAKE PROFESSIONAL MUSICIANS FIT TO PLAY AGAIN, MS ACKERMANN?

**Suddenly, your fingers start to cramp up while playing or your facial muscles stop doing the things they have done thousands of times before. Dystonia is a neurological disorder which usually expresses itself in muscle cramps and uncontrollable movements – a phenomenon we know very little about except that it has put an end to many careers.**

"For professional musicians, dystonia is absolutely disastrous," says the Australian music medicine specialist and physiotherapist Bronwen Ackermann. "Often, at the very height of their career, the body refuses to do its job and they suddenly can't play anymore." According to Ackermann, some three percent of all musicians suffer from dystonia. It is particularly common amongst violinists and flautists who play instruments that demand extremely intensive practice and a high level of speed and precision.

At Hannover University of Music, Drama and Media, she is cooperating on a study with the neurologist Eckart Altenmüller and currently treating 40 musicians: by specifically practising certain movements, the idea is to re-programme processes in the brain that are stored there, but blocked. "To do so, we divide the movement sequences into their individual components and re-learn them from scratch," explains Ackermann.

Previously, dystonia therapy often took several years. Using Ackermann's approach, some musicians have been able to play again after just six months. ● *Text* **MARLENE HALSER**

**PROFESSOR DR BRONWEN JANE ACKERMANN** from the University of Sydney, Australia, is a Humboldt Research Fellow at Hannover University of Music, Drama and Media.



Photo: Humboldt Foundation/Julian Maehrlin

## WHY SHOULD WE LISTEN TO WOMEN WHEN IT COMES TO FIGHTING CLIMATE CHANGE, MS MOLEFE?

**Extreme aridity and drought; and when it does rain, it rains so heavily that everywhere is flooded – this is the reality of climate change in Botswana. There, women in particular are faced with this in their everyday lives, says environmental researcher and human geographer Chandapiwa Molefe.**

In Botswana, it is usually women who are small farmers cultivating crops. Although climate change directly threatens their existence, policies have barely focussed on women and their point of view so far. Molefe wants to change all that. “Women are the backbone of the nation,” she says and quotes the African proverb, “Mosadi ke thari ya Sechaba.” She is working on recommendations for action that are designed to serve as practical guidelines for political decision-makers in Botswana. The aim is to integrate gender perspectives into the country’s climate adaptation strategies. In this way, she wants to

ensure that women have access to technologies, knowledge and micro-financing.

Molefe suggests, for example, a gender-sensitive distribution of positions in government ministries and that women, especially in rural areas, should be involved in formulating climate policies. “I want my work to strengthen women in Botswana because they are crucial if we are going to halt the impacts of climate change,” she emphasises. She now intends to draw up suggestions for concrete measures, but first she wants to analyse the situation on the spot and conduct interviews with stakeholders in Botswana. ●

*Text* ESTHER SAMBALE

**CHANDAPIWA MOLEFE**, an International Climate Protection Fellow, is being hosted in Berlin by the international organisation PlanAdapt.

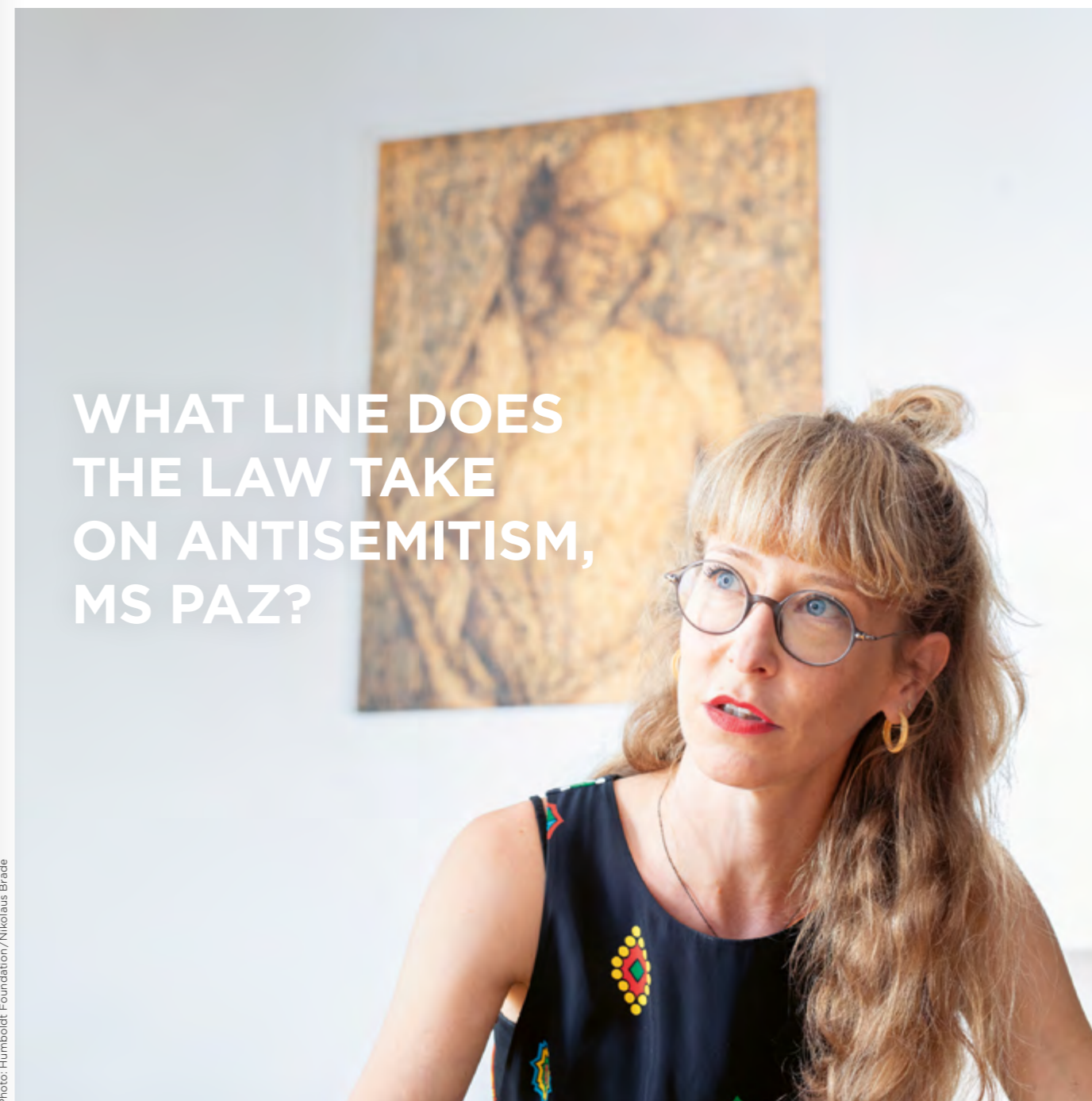


Photo: Humboldt Foundation/Nikolaus Brade

## WHAT LINE DOES THE LAW TAKE ON ANTISEMITISM, MS PAZ?

**Time and again, Jewish people in Germany are confronted with hostility and attacks. Politicians promise to tackle antisemitism with all the tools of a constitutional state. But does the law actually command adequate means to fight hatred of Jews? This is a research focus of legal scholar Reut Y. Paz.**

She compares examples of case law in Germany, Poland, the United Kingdom, Israel and France: How does the law deal with antisemitism? Where does it take up arms? Where does it ignore or even promote it? Paz emphasises that laws are determined by contemporary discourse and by the attitudes of the people involved in making the legislation. There is a time-lag in the response to historical change. Until then, the courts have to interpret the law accordingly.

Even today, Germany still does not have a legally binding definition of antisemitism, Paz explains. She refers to a ruling by the dis-

trict court in Wuppertal that did not define the attempted arson attack on the Wuppertal Synagogue in 2014 as an antisemitic offence. The court accepted the explanation given by the three perpetrators that they had wanted to draw attention to the conflict in Gaza. “A scandalous ruling,” says Paz.

Her demands are clear: “We have to subject the laws and legal scholarship to a critical revision and work out how the law can fulfil its promise to effectively combat ‘the oldest hatred in the world.’” ●

*Text* MAREIKE ILSEMANN

**DR REUT Y. PAZ** heads the project “Seeing Antisemitism Through Law: High Promises or Indeterminacies?” at Giessen University, Germany. From 2010 to 2012, she was a Humboldt Research Fellow at Humboldt-Universität zu Berlin.

**LAB ACCIDENT**  
**in Russian**  
**atomic center**  
**was planned!**  
 Sociologist publishes preliminary study

Stem cells can be reprogrammed with **citric acid**  
**Cure for**  
**cancer**  
**on the**  
**horizon?**



Corona triggers bankruptcy alarm ++ hotels forced to close down  
**Researchers ban**  
**HOLIDAY TRAVEL**

**Malaria drug**  
**cures**  
**Aids**



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 All the newspaper headlines, chats and titles of studies illustrating this article have been invented, although they were largely inspired by genuine examples. You can discover how good you are at differentiating between the real and the invented by taking the Fake News Quiz on our website.



[www.humboldt-foundation.de/en/the-hot-topic](http://www.humboldt-foundation.de/en/the-hot-topic)

# THE HOT TOPIC

The Earth is getting warmer, the virus is rife and, more than ever before, science is expected to provide explanations and solutions. When relationships are complex, answers uncertain and concerns great, good science communication is called for – and yet so difficult. Why this is and what can be done about it.

Text **KILIAN KIRCHGESSNER**

**T**he threat arrived in a padded envelope: a little plastic bottle and the typed message: “drink this – then you’ll be immune.” The envelope was addressed to Christian Drosten, the virologist at the Charité hospital in Berlin who has advised the German government and public during the Corona pandemic. With his warnings he became a symbol of charting a careful course. Threats and hate messages, he reports, began arriving early on. The American immunologist, Anthony Fauci, who has been an adviser to US presidents since the 1980s, also elicited hostile reactions. In a quotation that has become legendary, he summarised his cooperation with the former US President Donald Trump, who usually ignored his warnings and advice and was openly hostile towards him, in the pithy sentence: “I was the skunk at the picnic.”

For many researchers it is a completely new experience to feel such open and aggressive rejection. Dealing with counter arguments, perhaps even scepticism, is just one of the tools of the trade. But outright rejection, even death threats? “Technology and science are increasingly interfering in areas of life itself,” says Martin Carrier, philosopher of science at Bielefeld University. “The Higgs boson doesn’t have much to fear from public opinion. But when we are talking climate, food and health, then science treads on many people’s toes.” And the more heated the societal discourse, the more responses scientists reap that comment publicly on their research topics. There is actually nothing new about hostility towards researchers, Carrier notes and looks back in history to illustrate his point: “When Darwin published his ‘On the >

9 128 Kommentare

Like Comment Share

**Mutineer**  
Warning!  
Covid vaccine supposed to manipulate DNA. Aim: new receptors for fourth-generation psychoactive drugs. Merkel intends vaccine commission to prescribe jabs for kids over five.

**Maverick**  
Obvs and then brainwashing with pills. Teaching my kid at home from now on. Unvaxxed but savvy 😊. Look after yourself and your kids!

**Freedom Spirit**  
Measles vax only works for receptors with Ritalin. That's why it's now Covid and mRNA tech. Money comes from industry. Hope Drosten and Merkel are getting a good cut at least!

“

THE TONE IS MORE RELAXED IN THE US.”

**NATIONAL HEROES OR FIGURES OF HATE**

The truth, Carrier believes, is that, in the future, the issues to which science can make a contribution will continue moving ever closer to people’s “comfort zone” – such as climate change, social issues or, indeed, pandemics. How do researchers deal with this growing interest; what strategies do they choose for their communications? In the Humboldt Foundation’s network, many relevant ideas and approaches can be found – always depending on people’s research field and respective region of origin.

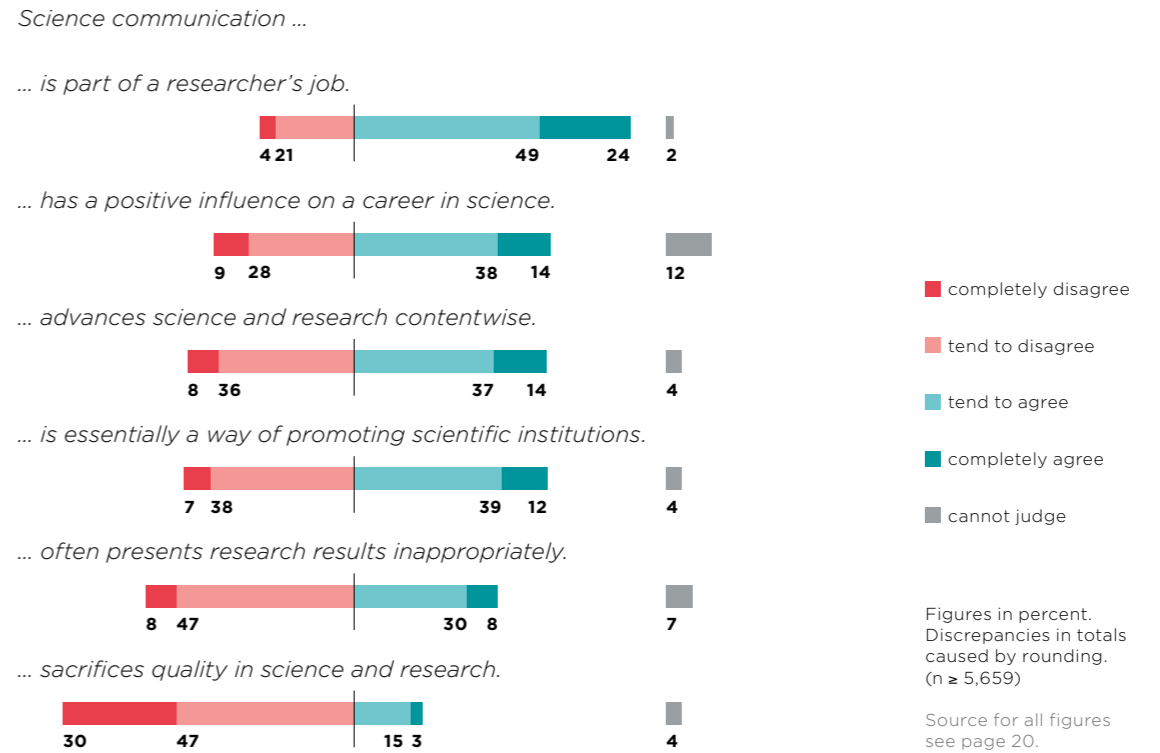
Rafael Radi, for example, has very recent experience of handling communications. A biochemist and Humboldt Research Award Winner, he was the leading brain behind the Honorary Scientific Advisory Group, a multi-disciplinary body that was established during the pandemic to advise the government in Uruguay. “Of course, there were negative responses, but they were marginal,” Radi reports. But he chose where he spoke very carefully: “We steered well clear of discussions that bred enmity.” Apart from this, his team produced “carefully devised public statements” that were precisely substantiated and thus difficult to refute. “When we spoke in public, we referred to these statements. We tried to keep personal opinions out of it,” says Rafael Radi. The public supported the Advisory Group, even in the most critical phases of the pandemic, actually criticising the government for implementing fewer measures than suggested. Medical practitioners in other countries can only dream of that sort of backing from the public: in some places, virologists have become national heroes during the pandemic, in others, figures of hate.

**TWEETING PAYS DIVIDENDS**

Just how different communications behaviour can be, is something Katharina Pistor observes time and again. The German legal scholar is a professor at the distinguished

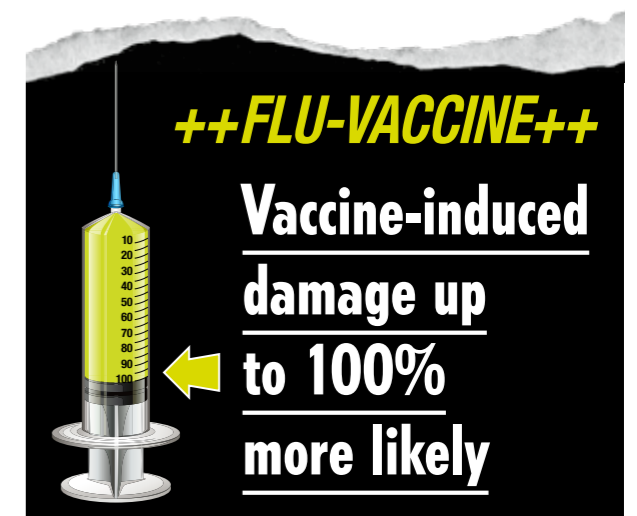
Origin of Species’ in 1859, people were in uproar.” The theory of evolution completely overturned religious notions of the development of life. Darwin became a target, and not just of fanatics. “Since then, when dealing with scientific outcomes, ideological issues have become ever less important,” says Carrier. Instead, research findings nowadays often inform concrete recommendations for action, from health through to climate research – and this is where they make people feel uncomfortable. So, what has mainly changed are the motives for hostility. And when some sections of the public became aware of the discussions scientists were having with each other, the questioning and checking, many went on a rant about the researchers themselves not knowing what they were doing. “Whereby there is nothing worse than consensus under conditions of uncertainty,” says Carrier who is associated with the Humboldt Foundation in his roles as an academic host, reviewer and former participant in the TransCoop Programme.

**FIGURE 1**  
In your opinion, what role does science communication play in science and research?



Columbia Law School in New York and an enthusiastic Twitter user. “The tone on Twitter is more relaxed in the US,” she observes. “Responses are less brusque and condescending than in Germany, for instance.” Pistor’s posts cover current legal decisions in her special fields of corporate, business and transactional law as well as topics like graduation celebrations at her university or even the neighbour’s dog, Cucchi. “At the beginning, I was sceptical and thought tweeting was just eating up my time,” says the Max Planck Research Award Winner. But she decided to have a go. That was three years ago when she was writing her legal book for non-specialists, “The Code of Capital”. “I wanted to promote it on social media and resolved to have 1,000 followers by the time it was published,” she says. She easily achieved her goal – and became an enthusiastic user. “You discover a lot about what’s going on, not least from people that you wouldn’t have much to do with otherwise,” Pistor concludes. Thanks to Twitter, she finds out about colleagues in other parts of the world, researchers from other disciplines and good books. And she shares her own thoughts: “If you enjoy the luxury of being able to think about things in peace, you should also share your thoughts with a broader public,” she says. Nasty comments are the exception, which certainly has to do with the top-

ics. After all, legal issues are seldom genuinely polarising – but some posts do make emotions run high, even on her channel: “When I comment on bitcoins, for instance, I notice that this topic attracts a more aggressive target group,” Pistor reports.





Calculation error in international climate study



For other researchers, however, communicating their research too openly on social media is risky. One example is Karen Radner, Humboldt Professor at LMU Munich. She is one of the most eminent experts on the Ancient History of the Near and Middle East – a region where the political situation is tense and often confusing. “On principle, I never comment on political issues, neither in interviews nor on social media,” says Karen Radner. A critical remark, even an interpretable comment could have a cascade of consequences. For her digs and fieldwork she is reliant on

acquiring permits from the governments responsible, and they usually screen applicants. Moreover, there is a danger of being targeted by fanatics, which could be a problem not only for her herself but for the team on the spot. “I always tell my students and staff: ‘If you insist on posting, you should take care that your comments won’t have any negative implications for yourselves and your team,’” Karen Radner explains. But she also knows that the public sphere is an inherent part of research – she writes books for non-specialists, publishes on specialist websites and heads

**FIGURE 2**  
In your opinion, how has the relationship between science and the public changed since the beginning of the Corona pandemic?

People’s expectations that science should deliver quick solutions have increased.



The role of science in policy consultations has been strengthened.



The overall reputation of science in society has been enhanced.



Science communication has become more difficult.



People’s understanding of science and research has grown.

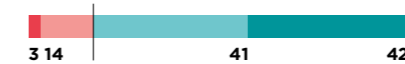


- completely disagree
- tend to disagree
- tend to agree
- completely agree
- cannot judge

Figures in percent.  
(n = 5,536)

**FIGURE 3**  
To what extent do the following apply to you personally and your engagement in science communication?

I don’t have enough time.



There are not enough reasons to do so.



In my projects there are not enough resources for this.



I feel my research topic is unsuitable.



I don’t have sufficient knowledge or ability.



I have received negative feedback in the past.



- does not apply to me at all
- does not really apply to me
- applies to me more than not
- fully applies to me

Figures in percent.  
Discrepancies in totals caused by rounding.  
(n = 5,611)

an online course for members of the general public. “I concentrate on exclusively talking about my work,” she says.

When climate researchers talk about their work, they find themselves knocking on open doors. Theirs is a hot topic, their findings influence policies all over the world. But not everyone is enthusiastic: climate experts report repeatedly on hostility and threats. This leaves Eduardo Queiroz Alves unfazed. The geochemist, a Humboldt Research Fellow at the Alfred Wegener Institute in Bremerhaven, investigates the impact of melting permafrost on the Earth’s climate. “Lots of people think research on the climate crisis is a kind of black box. They hear scientific forecasts and recommendations but simply cannot imagine how they are arrived at,” says the Brazilian. In his words, he therefore wants to “demystify” the work of climate scientists and invite those who are interested into his lab – virtually. And he puts a great deal of effort into doing so: he holds lectures for students and school children, he tweets and blogs. He has just taken part in the Communication Lab for Exchange between Research and Media that is run jointly by the Humboldt Foundation and the organisation International Journalists’ Programmes (IJP). Researchers like Queiroz Alves share ideas and experience with journalists on communicating science and prepare journalis-

tic products together. “Up to now, I had largely written for colleagues and find it quite difficult to discover the voice I should use to speak to the general public,” he says. Then he grins. “During the programme, one journalist asked me to write a short summary of my work. She read the few lines I’d written and said, ‘I don’t get it at all.’ So, I wrote it >



ON PRINCIPLE, I NEVER COMMENT ON POLITICAL ISSUES, NEITHER IN INTERVIEWS NOR ON SOCIAL MEDIA.”

**FIGURE 4**  
About what do you communicate publicly?\*



\* This question was only put to respondents with experience in science communication. Multiple answers possible. (n = 4,557)

again and again until I'd figured it out." For his posts, he adopted a different style and made YouTube videos together with a science journalist. And, in no time, he received a message from his sister in Brazil: "Wow, I've understood it at last," she told him. "I never really knew exactly what you were working on!"

That is the sort of response many researchers would like to receive to their communications. They want to show what goes on behind lab doors and make clear how science

really works – and why it doesn't always have an answer to everything.

**ACQUIRING KNOWLEDGE-PROCESS IN REAL TIME**

The Covid-19 pandemic has taught us a lot, according to the President of the Humboldt Foundation, Hans-Christian Pape: "The public have witnessed the process of acquiring scientific knowledge in real time with all its provisionalities



**FIGURE 5**  
What would have to happen to motivate researchers to engage more with science communication in the future?

There would have to be more support from scientific institutions.



There would have to be support in a crisis, e.g., negative reporting, shitstorms, threats and harassment.



There would have to be more financial resources for science communication.



Researchers would have to be invited to science communication activities more often.



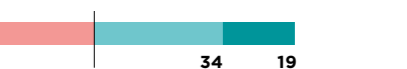
An evaluation would have to be conducted to assess the value of science communication.



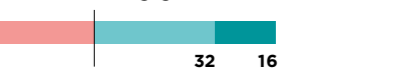
There would have to be more training and continuing education opportunities.



Science communication would have to play a more important role in a researcher's career path.



Science communication would have to play a bigger role in awarding grants.



Legend:  
■ completely disagree  
■ tend to disagree  
■ tend to agree  
■ completely agree

Figures in percent. Discrepancies in totals caused by rounding. (n ≥ 5,594)

and hypotheses, which have to be checked, confirmed or, indeed, disproved multiple times." The fact that scientific recommendations on issues like the suitability of vaccines for specific age groups changed, led to a degree of discontent amongst the population and politicians. Pape argues for dealing with changes in the evidence base in a sober, open way: "The division of labour in our society tasks science with providing the best possible knowledge available. It should not behave as though it had oven-ready solutions to every problem but must openly admit to uncertainties. It must refrain from promising society any kind of panacea – that leads, on the one hand, to science making excessive demands on itself and, on the other, to an excess of hope and expectations."

**LONGING FOR SOLUTIONS**

But even when scientists are modest and realistic, they often encounter huge expectations which have grown historically. "In the last few decades, science and technology have been very successful. That has spoilt soci-

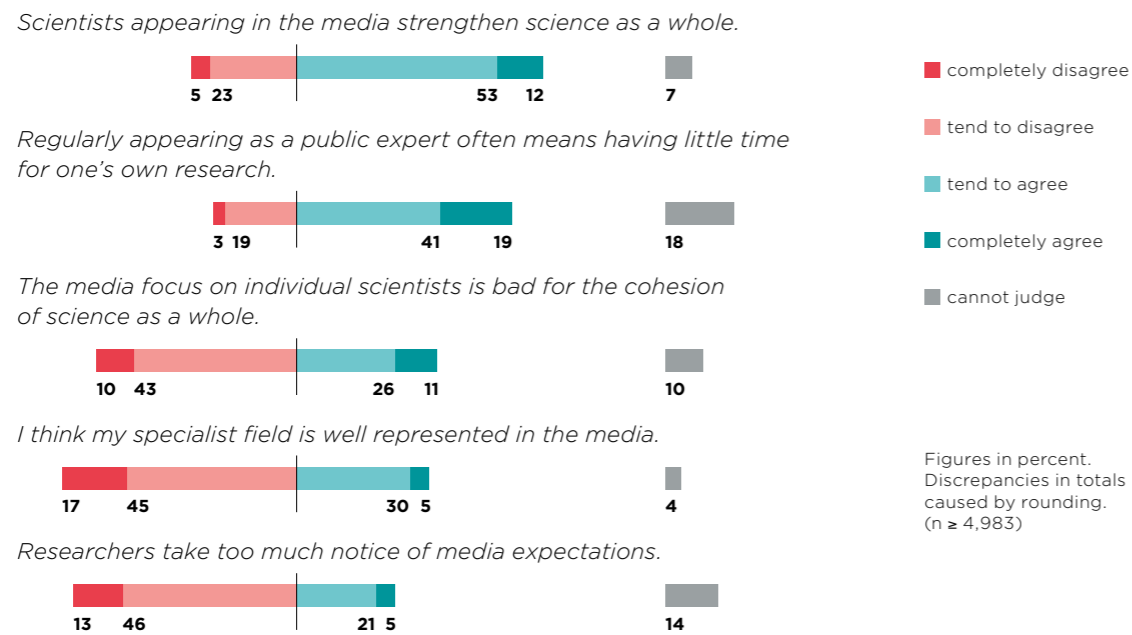


ety,” says Martin Carrier, the philosopher of science from Bielefeld University. “Thanks to research, quick solutions have been found to many problems. So, it’s difficult to keep your expectations realistic about what science can achieve.” And that was precisely the case when the entire world suddenly felt at a loss as to what to do about a novel virus, and even science couldn’t immediately come up with a magic solution. Martin Carrier’s thoughts return to the past, and he grins. “Do you know the anecdote about Woodrow Wilson?” he asks. During the First World War, the US president appointed a physicist to his consultative board, justifying the choice with the legendary words “in case we have to calculate something out.” This historical sentence embodies the contempt that was felt for science, says Carrier. How very different the situation is today, despite occasional bouts of science scepticism. “I think it’s a positive signal that science gets reactions from society.”

In the last resort, it proves that it is perceived as relevant.



**FIGURE 6**  
What is your personal opinion about the relationship between science and the media?



Source for all figures:  
Science communication in Germany: results of a survey of 5,688 researchers at German universities and non-university research institutions conducted by the Impact Unit of Wissenschaft im Dialog, the German Centre for Higher Education Research and Science Studies, and the National Institute for Science Communication.

OPINION

# OVERHASTY SCIENCE

Never before have scientists been in greater demand as soothsayers. But half-baked publications harm their reputations. They have to do something about it themselves.

The setting is the biggest, most acute health crisis since the World Wars: at the pinnacle of their creativity, the hard sciences suddenly go weak at the knees – on a mountain of more than half a million publications produced in just over a year, with the chasms of an unchained attention industry ahead of them that seems to relish seeing its heroes fall. Corona research has reached dizzy heights, and yet finds itself in deep water at the same time. But not just Corona research.

The tragedy goes deeper because the sciences have not only been driven into the situation they currently find themselves in by outside forces. The relevant term here is sloppy science – which I am not using to mean the slovenly, bad research that was always part of the package, but the weaknesses of a science culture that have made themselves particularly apparent in this major crisis. I am talking about a flood of publications – or rather, pre-prints and pre-, pre-publications – that never should have been made



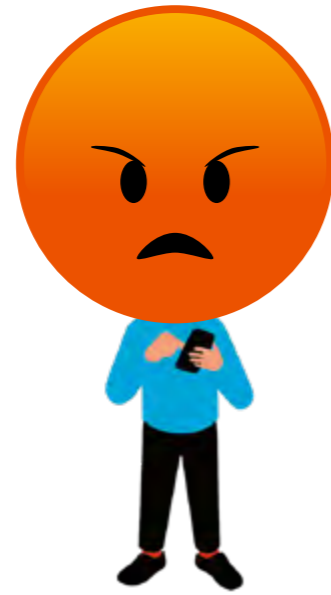
**JOACHIM MÜLLER-JUNG**  
Head of Natur & Wissenschaft, Frankfurter Allgemeine Zeitung

public in the first place because they often contain elements that have not been thought through or proven. I am also talking about the kind of skin-deep discourse which, admittedly, implies that all research is experimental and preliminary in nature, but does not explain its inherent uncertainties, thus itself generating uncertainty. And about the sheer craving for recognition. In brief: I am talking about half-baked claims and boasting that are now making many people ask whether science really is competent to deal with crises. In other words, about issues that are all too human.

It is certainly the case that science exposes itself to a whole raft of so-called social media, which themselves have long since started to reveal doubts about their own social compatibility. For the sober self-image and functioning of academic life, however, the hubris of sloppy science is something perhaps best described by the words

of the German chancellor: new territory. In any case, the institution’s self-confidence has had it – which also leaves deep scars in how it is perceived in the outside world. The ongoing debate about the origins of the pandemic virus is a case in point. Since the beginning of the crisis, whenever the question is raised as to whether it was a natural zoonotic transmission or a lab accident, researchers have had to contend with the bitter wind of disinformation in their faces. Kindled by the populist right in society and politics, and, with cold-blooded calculation, by governments, too. A fundamental scientific question, politically highly charged, but one that will require painstaking, time-consuming investigation to answer. Instead of recognising and communicating this, all around the globe, hordes of scientists have allowed themselves to be instrumentalised for the one or other theory.

Another example: case number predictions. Never before has the public role of experts as soothsayers been in greater demand. Science, on the other hand, is a parallel universe full of doubt. Evidence icon and data specialist John Ioannidis, for example, stated at an early stage that infection predictions based on computer models were rubbish, whilst himself gaining the public’s attention by pursuing the laborious business with patchy empiricism. At the same time, in high-ranking journals, researchers have not ceased improving the predictive models, thereby making one thing clear: Failure is the nature of the beast. At a time of global crisis, however, this self-evident fact acquires a veneer of incompetence the longer it lasts. Trust is eroded, as is self-confidence. So, perhaps the sciences, all the sciences together, would best be served by confronting the really big crises with a large-scale expert agency that can easily network online, rather like the IPCC (Intergovernmental Panel on Climate Change) for climate research. But they would need to organise that themselves. ●



## “YOU CAN’T CALCULATE IT”

A conversation with communication scientist Hektor Haarkötter on the rules of online communication – and how best to respond to a shitstorm.

“

THE DIGITAL CHANNELS LEND THEMSELVES TO COMMUNICATING SCIENCE.”

It’s difficult to say because there isn’t even a definition of when something turns into a shitstorm – is it 50 negative comments or does it have to be nearer 500,000? What I personally think has changed today is that shitstorms are increasingly calculated by professional actors – actors who are out to poison communication from the word go. Trolls, tabloids but also populist parties use the tactic to try and generate as much attention for their topic as possible. But the amazing thing is, you can’t calculate it. Sometimes you post something that you think is controversial and you don’t get a single reaction. And another time, you write something ostensibly harmless, but it’s the very thing that gets someone’s goat.

**KOSMOS:** Mr Haarkötter, did shitstorms exist even before social media were invented?

**HEKTOR HAARKÖTTER:** They do actually seem to be a feature of the digital world. But they predate Facebook, Twitter and Co.: in mailing lists, for instance, you used to get brutal forms of confrontation that proceeded in cascades. The cascade element is an important characteristic of shitstorms – one word generates another, and the mood escalates at an incredible rate.

**Your book about shitstorms appeared in 2016. Has the phenomenon changed since then? Have shitstorms become more frequent or radical?**



### PROFESSOR DR HEKTOR HAARKÖTTER

teaches communication science with a focus on political communication at Hochschule Bonn-Rhein-Sieg, University of Applied Sciences. A former journalist and Humboldt host, he is editor and author of several scientific books such as *Shitstorms und andere Nettigkeiten. Über die Grenzen der Kommunikation in Social Media (2016)* or, most recently, *Notizzettel. Denken und Schreiben im 21. Jahrhundert*.

**What lessons do you draw for science – not to communicate on social media at all?**

On the contrary: science communication is more important today than ever. And these digital channels are a great way of doing it.

**Can you recommend any recipes to help researchers avoid shitstorms?**

If my entire energies are directed at not causing a shitstorm, I should restrict myself to using Latin or Ancient Greek on social media. No, but seriously, I would recommend communicating as neutrally as possible and trying to avoid polarisation – just as the laws of good behaviour teach us.

**And then what should you do if you get caught up in a shitstorm? Keep quiet and wait until the storm has passed?**

No, on no account! A shitstorm can have dire consequences – legally, professionally and privately. You should definitely try to save the situation, by apologising if you have said something that has offended someone. And, in any case, with an open explanation – why you judged the way you did, for example. When it comes to science communication, the best thing is to explain your scientific analysis again. Usually, you will then reach the members of the public who didn’t actually intend to misunderstand you. ● Interview **KILIAN KIRCHGESSNER**

# THE COMMUNICATION BOOM

Policy makers, scientists and the media want to improve science communication. New ideas and initiatives are in demand.

Text **GEORG SCHOLL**

What do researchers have to do to make people listen and understand them? The solution sounds simple. “Just behave as though you were in a pub with a good friend, standing at the bar, and you were telling him a story,” says Alok Jha of the magazine *The Economist*, a beacon of British journalism.

Jha is a guest member of the jury at the Humboldt Communication Lab, a series of events at which researchers and journalists from the Humboldt Foundation’s networks and the International Journalists’ Programmes get together to learn from one another. Several days’ work in tandem culminates in journalistic products about the researchers’ work. On the final day, things get serious, and the teams present their projects with Jha offering them his feedback. He likes a lot of what he hears, some of it really impresses him. But he always asks questions, points out what he can’t understand and passes on tips as to how to improve something.

## THAT’S NOT REALLY THE WAY RESEARCHERS TALK

The image of a visit to the pub is a real eye-opener for many researchers. To concentrate on a few statements or even just one, leaving out everything else, narrating your research like a story, ideally with yourself as the main character. That’s not the way researchers usually do it. And vice versa: most of the journalists, of whom very few specialise in science, discover the special ways researchers’ minds work and how difficult it often is to condense texts about their complex research so that non-specialists find it interesting and comprehensible.

“

JUST BEHAVE AS THOUGH YOU WERE IN A PUB WITH A GOOD FRIEND, STANDING AT THE BAR, AND YOU WERE TELLING HIM A STORY.”



**TARGET GROUPS THAT ARE HARD TO REACH**  
Talk about tin foil hat!  
Headress of someone participating in a *Querdenker* demonstration in Berlin in May 2021

Photo: Getty Images/Sean Gallup

What do they expect from one another? How can trust-based cooperation succeed? And what constitutes good science communication? Learning from one another is the focus of the Communication Lab for Exchange between Research and Media that the Humboldt Foundation launched in 2020, funded by the Federal Foreign Office. Opportunities like this are a feature of the current boom in science communication in Germany. Admittedly, the story began 25 years ago when academics, businesspeople and politicians collaborated on the first such initiative. They adopted a memorandum on Public Understanding of Sciences and Humanities that sought to increase and professionalise science communication and, above all, emphasise the idea of a dialogue. A great deal has been

achieved since then. But even in Germany, there is still a lack of opportunities to acquire broadly-based communication qualifications in academia as well as to find coherent answers to the challenges posed by social media and the media transformation that has decimated editorial offices and massively weakened science journalism.

So, the time was ripe for new ideas and initiatives. Apart from countless conferences and articles, they include a ten-point plan by the Alliance of Science Organisations in Germany, of which the Humboldt Foundation is a member, and #FactoryWisskomm, a think-tank established by the Federal Ministry of Education and Research. In 2021, this effectively brought together everybody who is anybody in the field in Germany, from science journalists >

to representatives of foundations and funding organisations like the Humboldt Foundation through to universities and communication researchers. The goal was to incite discussions and draw up recommendations.

Of course, the discussions were held against the backdrop of the current pandemic, which lent them added topicality. The Berlin virologist, Christian Drosten, for example, who more or less became the scientific face of explaining the pandemic and is probably the most famous researcher in Germany at present, received death threats. The Robert Koch Institute – which with its almost daily reports on infection rates has also seen extensive media coverage since the beginning of the Corona crisis – was

“  
UP TO NOW, THE  
CORONA PERIOD CAN  
ALSO BE INTERPRETED  
AS A SUCCESS STORY.”

the subject of an arson attack. And the most important German academy of science, the Leopoldina in Halle, was threatened and targeted by hackers.

In this situation, scientists may well ask themselves whether they really want to tell a story to someone in a pub. Who knows whether it won't end in a violent pub brawl?

Christian Drosten, who, amongst other things, regularly explains the newest research findings on the Coronavirus and the developments in the Covid-19 pandemic in a highly popular podcast, is not to be intimidated and sees science communication as part of his job. But he does understand why some colleagues hold back from engaging with controversial or potentially contentious scientific topics. “Most scientists are not used to dealing with public reflexes. It's not part of their training, nor of their everyday experience,” he says at the final #FactoryWissskomm meeting.

Drosten's creed is transparency. And this is equally true when the situation itself is unclear, when – if in doubt – people must rely on their own professional experience or that of specialist committees. “In a case like that, we have to say that we judge the situation to be so and so, even if we don't have the evidence to back it up at present.”

**UNCOMPREHENDING POLICY MAKERS**

At times during the pandemic, provisional statements of this kind have repeatedly met with a lack of understanding – even amongst politicians who have sometimes openly complained about science changing its mind. The situation has not been helped by some of the media which, in a bout of false balance, have given equal exposure to contradictory voices from research without differentiating between broad scientific consensus on the one hand and a minority view on the other. Recipients get the impression that science is divided. Drosten therefore calls on the media to urgently follow this up and reflect on the way they have been communicating during the pandemic.

But all in all, so far, the Corona period can also be interpreted as a genuinely encouraging success story. The general public's scientific literacy, for instance, has increased exponentially. Germans seem to have become a nation of experts on infection research. Terms like R number and incidence rate, viral vector and mRNA vaccines have become ubiquitous. People know about the difficulties involved in modelling infection events and can name the virus variants currently doing the rounds at the drop of a hat. Christian Drosten's above-mentioned podcast, which is now recorded on alternate weeks by Drosten and the Frankfurt virologist Sandra Ciesek, has been accessed more than 100 million times to date. For each broadcast, listeners dedicate a full hour to listening to explanations of scientific details and discovering how the process of acquiring scientific knowledge works.

But the Corona pandemic has also brought forth the sceptics. Climate change deniers have not disappeared, they have simply been drowned out by the people protesting about mask wearing and vaccinations. The group that, in Germany, calls itself the *Querdenker* (lateral thinkers) suspects the “system” of large-scale conspiracies. From their point of view, the system not only refers to the state, but also to the media and, indeed, to large swathes of science.

Against this backdrop, scientific expertise and science communication also play a role in maintaining social cohesion and dealing with political extremists. This means scientists are expected to bear a lot of additional responsibility, which is more than some can cope with. If you engage in communication, especially about hot topics and controversial issues, you not only need the expertise but, above all, the time to do so, which not everyone is willing or able to invest. And not everyone has the necessary skill either. There has thus been a good deal of disquiet in the scientific community about the pressure to communicate. The

feeling is that one should rather concentrate on systematically supporting those who are good at it and enjoy the role and leave it to them to do the talking.

Any number of ideas about how to bolster science communication are now being discussed, first and foremost training opportunities to reinforce researchers' communicative competence. In the German science system, the culture of recognition for communication should be improved. A public foundation could promote good science journalism at regional level. Defence units at German universities and research institutions could support researchers who become the target of hostility. More research should be done on the impact of communication measures on various target groups, not least to employ resources more effectively, because additional, new measures will cost money that will possibly have to be axed elsewhere.

**IN THE WEB OF CONSPIRACY MYTHS**

Moreover, impact research is important because despite many years of science communication, there are doubts as to whether and how we can reach those who don't give a toss about scientific facts. So, how should we penetrate the echo chambers of climate change deniers, for example?

The silver bullet of science communication that even reaches those who have completely withdrawn into the murky depths of conspiracy myths is yet to be invented. But you can't give up according to the successful German science journalist Mai Thi Nguyen-Kim on her YouTube channel maiLab. Science must interfere, she said at the final #FactoryWissskomm meeting, otherwise you clear the way for those who twist the science and instrumentalise it for political and ideological ends. With her YouTube channel, which has more than 1.3 million subscribers, the science journalist with a doctorate in chemistry has found a recipe that might even win over science sceptics. “Conspiracy theories that twist the science are often remarkably detailed, even when the details are wrong,” she has observed. “The impression they make on non-specialists is positive: Someone is taking the time to get to the heart of things whilst elsewhere they are just abridged. In our experience, when we dig deep into the methods, stats and confidence intervals, the response is good. People want to know what's what. And that's the only way you can end up winning the argument.”

Meeting people who want to know exactly what's what describes the experience of researchers who want to explain more and better. This is the message contained in the results of an online survey conducted recently by the German Centre for Higher Education Research and Science Studies, the National Institute for Science Communication and the Impact Unit of *Wissenschaft im Dialog*, the organisation for science communication. Eighty percent of the approximately 5,700 researchers at German universities and non-university research institutions sur-

**A DIALOGUE BETWEEN SCIENCE AND THE MEDIA**  
The Humboldt Communication Lab for Exchange between Research and Media  
[www.humboldt-foundation.de/en/comlab](http://www.humboldt-foundation.de/en/comlab)



**TEN-POINT PLAN**  
Recommendations by the Alliance of Science Organizations for improving science communication  
[www.humboldt-foundation.de/en/alliance-scom-10-point-plan](http://www.humboldt-foundation.de/en/alliance-scom-10-point-plan)



**SCIENCE COMMUNICATION IN A NUTSHELL**  
The International Summer School “Communicating Science”  
[www.humboldt-foundation.de/en/communicating-science](http://www.humboldt-foundation.de/en/communicating-science)



veyed agreed with the statement that they enjoyed communicating and thought it enriched their job. And 91 percent believed that science communication should aim to reinforce science-based decision making in society.

Eighteen months into the pandemic, we can recognise positive trends in science communication – despite all the structural and individual challenges. After all, everyone involved has learnt a lot: the public about how science works, science about what it must take into consideration when communicating with the public and, finally, politics and the media about how they can deal with uncertainty and minority opinions in research more effectively. ●

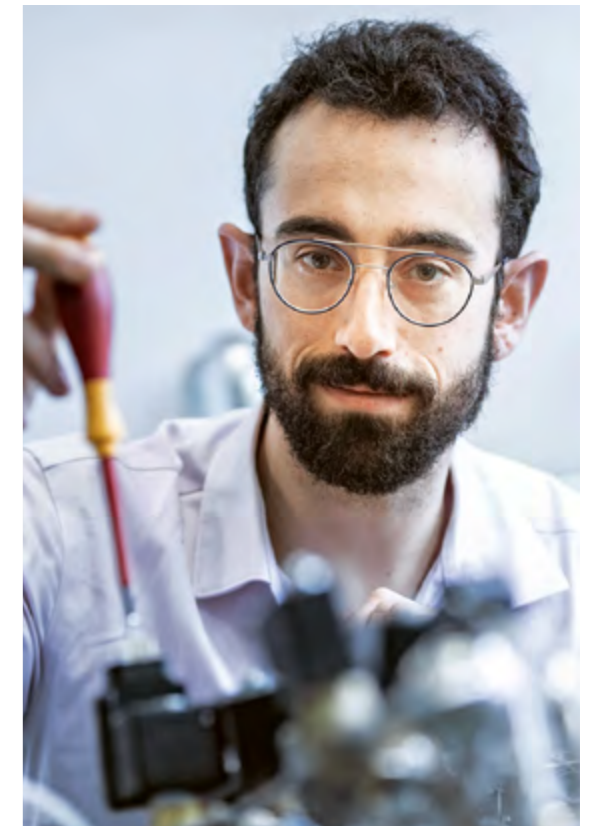
# THE MARTIAN

Air, fuel and drugs – what about if they could all be produced on Mars? A drop of blue-green algae brought from Earth and cultivated on Mars could suffice, says astrobiologist Cyprien Verseux. Self-sufficient Mars missions would become possible.

Text **JAN BERNDORFF**

“

WOULD I JOIN THE MISSION? LIKE A SHOT!”



At first glance, Cyprien Verseux could be experimenting in the art of cookery. Atmos, short for Atmosphere Tester for Mars-bound Organic Systems, is the name of the metal cube on the lab bench. It is about a cubic metre in size and has nine glass vessels sticking out the top with tubes leading from their lids to gas bottles. If you look into the vessels that hold about a litre, you see a transparent, greenish liquid.

Cyprien Verseux is not a cook, but an astrobiologist. He is not working on futuristic dishes, but on experiments in space travel. At the Center of Applied Space Technology and Microgravity (ZARM) at the University of Bremen, the French scientist is preparing the manned missions to Mars that space agencies like NASA want to carry out in 15 to 20 years' time. This is not another space race on the recent pattern of multi-billionaires like Jeff Bezos, Richard Branson or Elon Musk. Rather, the major space agencies' Mars missions are about basic research: they are designed to determine once and for all whether there really is life

on Mars – even if it is only microbes deep in the ground – as well as to learn more about the evolutionary history of the solar system and life on Earth.

This is what Humboldt Research Fellow Verseux is also working on in Bremen. If his project is successful, it would make it much easier to provide the astronauts with supplies during their mission, including, but by no means limited to, food.

## WHERE TO GET THE AIR TO BREATHE?

Apart from nutrients, we are also talking medicinal drugs, fuel and, most important of all, air to breathe. Atmos, the metal box in Verseux' lab, is an atmosphere-controlled vacuum photobioreactor. Swimming around in the liquid are tiny green bacteria which could possibly provide the ingredients. Verseux is exploring how these microorganisms could breed best on Mars. “If they deliver on what they promise, just one drop will be enough to take to Mars,” he says. “There they can be cultivated so quickly that you could fill a whole swimming pool with them in no time. And then the astronauts would be completely self-sufficient.” Voyages of discovery, outer space and biology already fascinated the 31-year-old when he was still a boy. He often went camping with his parents in the wilderness. On clear nights, his father explained the stars to his son. “I asked myself whether there was life on the other planets, too, and decided to try and find out.” >

## SAMPLES FOR THE MISSION

NASA's Mars simulation project HI-SEAS in the volcanic landscape of Mauna Kea on Hawaii

Photos: Christiane Heinicke, Presseleinst Bremen / Joerg Sarbach



French astrobiologist **DR CYPRIEN VERSEUX** is currently conducting research as a Humboldt Research Fellow at the Center of Applied Space Technology and Microgravity (ZARM) at the University of Bremen. On Twitter, he tells his more than 12,000 followers about his research. He has blogged and written books about the time he spent on a Mars simulation on Hawaii and at a research station in the Antarctic.

 @CyprienVerseux

But Verseux soon realised how difficult it is to become an astronaut. So, he studied biology to get to the bottom of the life aspect of the issue.

Verseux specialised in astrobiology, which is the study of the conditions and possible forms of life in space. His doctorate contributed to the BIOMEX experiment: between 2014 and 2016 on board the International Space Station ISS, hundreds of samples of various bacteria, algae, lichens and fungi were subjected to the conditions present in space and on Mars. Amongst the most robust microorganisms were the bacteria Verseux was studying: cyanobacteria, whose *Anabaena* genus is now swimming around in the Atmos vessels in Bremen.

Cyanobacteria are most commonly known as blue-green algae that have a proclivity to cause lake ecosystems to collapse in summer. Various toxins accrue during their metabolism. If the concentration of blue-green algae is too extreme, they kill the life of the lake. But the

substances can be used constructively, as active agents for drugs, for instance. They contain proteins and vitamins, and because they draw other nutrients from the soil and release them again, they could be used on Mars as a substrate for cultivating crops. And that's not all: cyanobacteria also carry out photosynthesis. They bind carbon dioxide from the air and produce oxygen instead. On Mars, this ability will be worth its weight in gold because oxygen, which is crucial for fuels and air to breathe, is extremely rare there. The air is largely composed of carbon dioxide and, to a lesser extent, nitrogen.

#### GREAT NEW HOPE: BLUE-GREEN ALGAE

So, cyanobacteria are space travel's great new hope. And Verseux' experiments underpin it. "It was clear that we could cultivate cyanobacteria with the substances that will be available on Mars. But now we know that it's all much easier than we thought! We only have to change the atmospheric conditions on Mars a little bit for the culture to thrive." In the Atmos reactor in Bremen, researchers can change the pressure, temperature, light and composition of the air at will and then test the bacterial content. "We are looking for the best compromise between the preconditions of the Mars atmosphere and the ones that make the bacteria grow best," says Verseux. All you need to do is increase the pressure and slightly adapt the ratio of nitrogen to carbon dioxide. All in all, it's no more trouble than it would be in a greenhouse on Earth.

But this is not enough for Verseux. He now wants to use cyanobacteria to develop a bioregenerative life-support system. "I want to create something that works on the spot and not just in theory," he says. But how should he acquire a realistic picture of the conditions on Mars while sitting comfortably in a well-equipped laboratory? "If I'm going to construct systems that function for astronauts on Mars, I have to know what it is like to live there."

Verseux tries to acquire this knowledge in the most direct way possible: whilst still working on his doctorate, he applied to take part in NASA's Mars simulation project HI-SEAS on Hawaii. From August 2015, he spent a whole year with five other researchers in an area of about 100 square metres in a roughly six-metre-high white dome with a diameter of some 12 metres, at a height of 2,500 metres, completely cut off in the middle of the barren volcanic landscape of Mauna Kea. "We tested all the aspects of a Mars mission – including the time lag in telecommunications." A radio signal from Mars to Earth takes between four and 24 minutes because, depending on the planet's position, it has to cover a distance ranging from 55 million to 400 million kilometres. The HI-SEAS participants constantly had to deal with a signal delay of 20 minutes.

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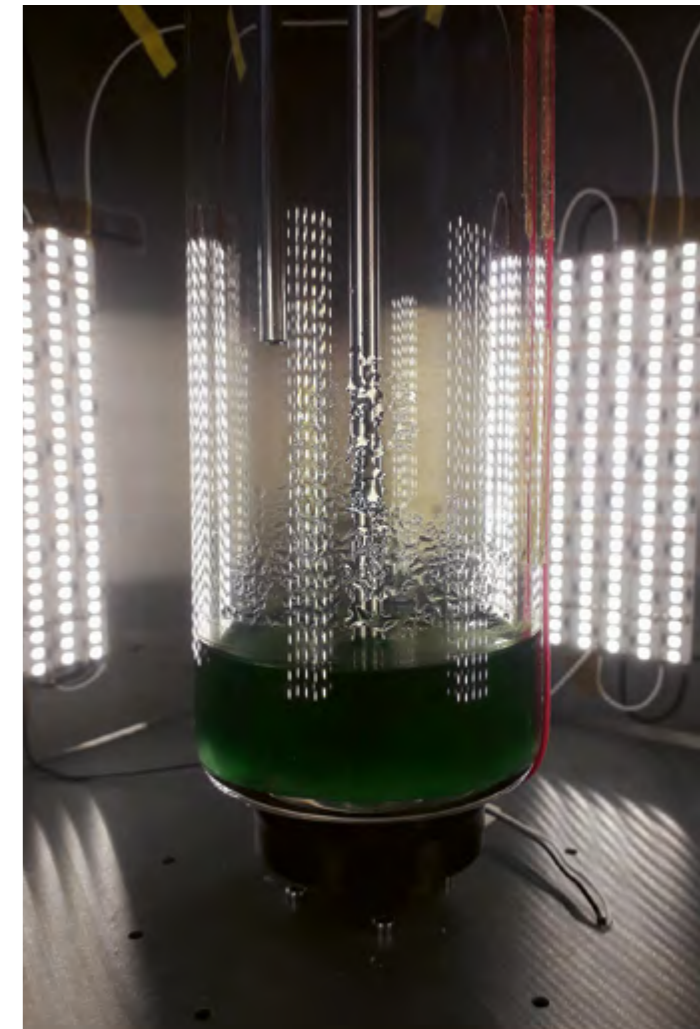
EVERY TEST TUBE IS A VALUABLE TREASURE BECAUSE YOU CAN'T REPLACE IT IF IT BREAKS.”

One of the questions addressed by the simulation was how a crew would manage without additional supplies. "Every test tube is a valuable treasure because you can't replace it if it breaks," says Verseux. Above all, however, HI-SEAS was designed to test the psychological dynamics in such an isolated group. How can you live in harmony and stop conflicts from escalating? Consequently, psychological state and compatibility were just as important in selecting the crew as their specialist qualifications.

#### AT THE BEGINNING HE WAS A BIT THE "ABSENT-MINDED PROFESSOR"

And what about Verseux? "He's a really nice guy, you can get on with him on a long-term basis," says Christiane Heinicke who develops living and working modules for Mars missions at ZARM. She took part in HI-SEAS together with Verseux. What she found particularly special about him were his focus and organisational skills. "At the beginning he was a bit 'the absent-minded professor': when he got his teeth into a problem, he didn't budge until he had solved it." As time went by, he himself realised that a daily routine, sufficient sleep and time for relaxation were important if you wanted to go on being productive, Verseux explains. "And he sticks to that," says his colleague Heinicke.

In 2018, Cyprien Verseux had another opportunity to practise being productive under extreme conditions: He spent a year at the French-Italian Concordia Research Station in the middle of the Antarctic, which space agencies also use for their research. The life challenges at the station are similar to those during a long-term mission in space. "For several hundred kilometres round about Concordia you will not encounter a single person, not a single plant," Verseux says. "In the winter, when it's dark for months on end, the temperature outside drops to below minus 80 degrees Celsius with an icy wind. For weeks, you are holed up with a dozen people at extremely close quarters. You really do feel as though you are on another planet."



**LIKE A GREENHOUSE ON EARTH**  
Bacteria growing in the bioreactor under similar conditions to those on Mars

This mission also taught Verseux more about mental hygiene: "When you're so isolated, it really is important to plan well – including time for relaxation so that you get enough of it. During these phases, I read, worked on my book about the experiment and learned a new instrument – the ukulele."

Will he ever be able to use his experience for the real thing? If NASA does manage to set off for Mars as planned, Verseux will be in his late forties – an ideal age for astronauts. And there will certainly be an astrobiologist on board. Would he join the mission? "Like a shot!" answers Verseux without hesitation. Does he have no fear? After all, the journey would last two and a half years: six months out, 18 months on a planet that, despite all our research, we know very little about, and six months back, six months back. Respect, yes, fear, no, he says. Journeys of discovery had always been risky, but they had been crucial in taking humanity forward. "It's a risk worth taking." ●





## FOCUS

## Creating sustainable networks

As a globally active networking organisation, the Alexander von Humboldt Foundation considers itself under an obligation to help promote sustainable development in the world. In the context of its sustainability agenda, it will develop future measures to make science and science funding more sustainable.

Many researchers in the Foundation's network work on sustainability topics. Their expertise is to be pooled and reinforced in a "network within the network" – by introducing, for example, new virtual dialogue formats like the Humboldt New Mobility Conference in September 2021.

In science communication, too, the Humboldt Foundation is engaging with the topic of sustainability.

The Communication Lab for Exchange between Research and Media has already held two virtual workshops on the impact of climate change and the social dimensions of sustainable development.

Moreover, new resource-saving forms of mobility and communication are going to be tested for its networking activities. The Foundation's head office itself is setting a good example by specifically encouraging its staff to use sustainable transport and choosing a sustainable construction option for the Foundation's new main building. ●

## CAPACITY BUILDING

## Humboldt Foundation sponsors new research hubs in Africa

The Humboldt Foundation has introduced a new alumni programme for researchers in academic leadership positions at African universities and research institutions: Humboldt Research Hubs. Six selected researchers will head research hubs in Benin, Cameroon, the Republic of Congo, Nigeria and Zimbabwe which will function as nerve centres for reinforcing research capacities in Africa, as well as for connecting Humboldt Alumni in African countries with researchers in Germany. The aim is to generate research results that have special relevance for combatting the current pandemic and elaborating strategies for future crisis situations. Each of the research hubs will receive sponsorship of up to €750,000 over a period of five years. Five hubs will be financed by the Federal Foreign Office, a sixth by a collaboration with the Bayer Foundation. ●

 ADDITIONAL INFORMATION

[www.humboldt-foundation.de/en/apply/alumni-programmes/alumni-abroad/humboldt-research-hubs-in-africa](http://www.humboldt-foundation.de/en/apply/alumni-programmes/alumni-abroad/humboldt-research-hubs-in-africa)



**PHILIPP SCHWARTZ INITIATIVE:** Thanks to the programme, alumna Anan Alsheikh Haidar from Syria has been able to build an academic network in Germany.

## ACADEMIC FREEDOM

## Five years of the Philipp Schwartz Initiative

Trailblazer for academic freedom: in 2016, the Humboldt Foundation introduced the Philipp Schwartz Initiative. It was thus the first research funding organisation in Germany to offer a sponsorship programme designed to protect researchers fleeing from war and persecution. Since then, the programme, which is financed by the Federal Foreign Office, has been emulated both nationally and internationally.

Since it was launched, the initiative has already enabled more than 300 at-risk researchers to continue their research work in Germany. They come from 22 countries where they had been subjected to war or state violence. Today, 96 research institutions Germany-wide have become host institutions.

To mark the anniversary, the Humboldt Foundation is taking stock with its publication "A New Beginning", which features the voices of alumni, German hosts who have integrated at-risk researchers in their teams, and representatives of the Federal Foreign Office and the partner organisations. ●

 ADDITIONAL INFORMATION

[www.humboldt-foundation.de/en/explore/newsroom/dossier-philipp-schwartz-initiative](http://www.humboldt-foundation.de/en/explore/newsroom/dossier-philipp-schwartz-initiative)



## MORE THAN JUST NEIGHBOURS

Who actually does what at Humboldt headquarters? Who are the people behind the scenes making sure that everything runs smoothly? This page is devoted to the colleagues at the Humboldt Foundation, their lives at work and beyond. **TODAY: REBECCA GROSSMANN**

It is now nearly two years since I completed my doctorate entitled “Moving Memories”. “Our Last Summer” is the name of one of the films I analysed for my thesis. In fact, I spent several summers in the library working on it. It deals with the portrayal of Germans and Poles in films made in both countries featuring the darkest chapter of our common history: the Second World War and the German occupation of Poland.

I partly chose the subject for personal reasons. My father is German, my mother comes from Poland. Like so many others, she left the country in 1982 when Lech Wałęsa was interned and martial law imposed. My mother never told me much about Poland. She wanted to put this phase of her life behind her and on no account be perceived as Polish. And she wanted this for me even less. At some stage, I myself started to become interested in the Polish part of my family and my own identity. I discovered that my grandfather had been a forced labourer in Hanau in

Germany in the Second World War. My grandmother, by contrast, came from a family of Old Believers of Russian descent who had found a new home in Masuria in the 19th century. I then went to university in Kraków and travelled Poland on the trail of my family. I discovered a very colourful and diverse country: Jarocin, Poznań and my grandmother’s home village of Wojnowo.

At the Foundation, I am responsible for our network in Central and Eastern Europe. In September, an online Humboldt Colloquium will take place with Polish Humboldtians and other academics. It will form part of the 30th anniversary of the German-Polish Friendship Agreement and will focus on the situation of young researchers in Poland. At meetings like that, I always feel that in the Humboldt Network, the values of science form a connection beyond the notion of the homogeneous national state. In this way, we can confidently look forward to a shared future. ●

Recorded by **MAREIKE ILSEMANN**



## THIS IS WHERE THE ENGLISH VERSION FINISHES.

BITTE WENDEN SIE DAS HEFT, UM DIE DEUTSCHE FASSUNG ZU LESEN.