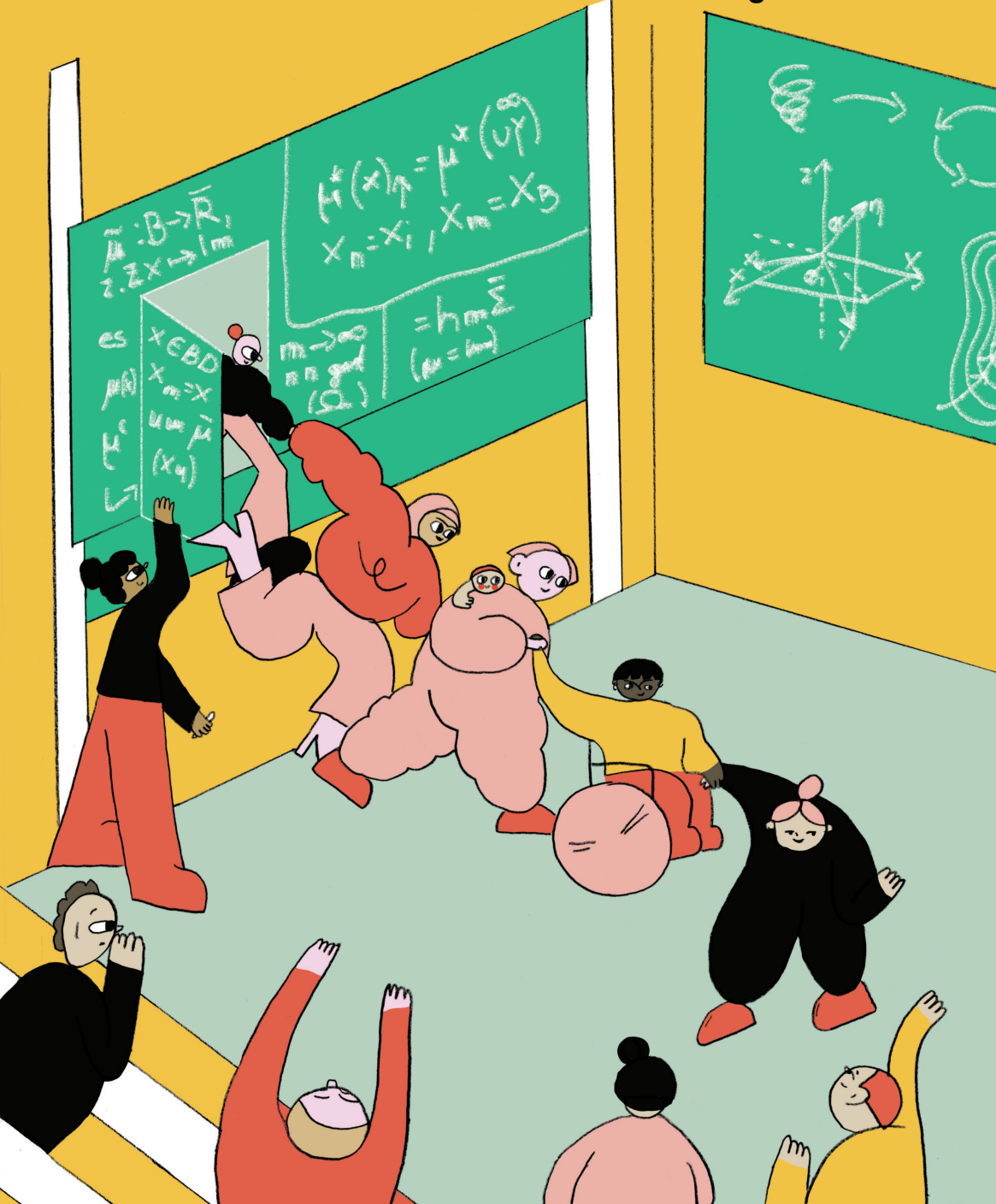


Of course!

² Seven inspiring stories about becoming a scientist



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Imprint

Responsible:

Dr. Audine Laurian
Scientific manager Collaborative Research Center “Waves to Weather”
Meteorological Institute, Ludwig Maximilian University
Theresienstr. 37, 80333 Munich, Germany
www.wavestoweather.de

Idea, conception and text:

Dr. Audine Laurian

Illustrations:

Johanna «Schlogger» Baumann, Annina Brell, Seda Demiriz, Sheree Domingo,
Anaïs Poilpré, Franziska Rufflair, Vallale

Cover:

Amelie Lihl (<https://amelielihl.com>)

Layout:

Vallale (www.vallale.fr)

The number of women in science and academia drops with each level of qualification in the fields of science, technology, engineering and mathematics (STEM fields). In Germany about 30% of the students in mathematics and natural sciences are women and this number drops to about 15% for professors. As a result, the STEM fields lack the rich diversity of the German population. This has serious consequences on the research system. Diverse workplaces have been shown to be more productive, more innovative and more creative because people with different backgrounds address problems in different ways, ask different questions, and come up with different hypotheses and strategies to solve problems.

One way to address this systematic under-representation of women in STEM fields in academia is to provide role models, women and men, to the students and scientific community.

A first booklet “Of course!” appeared in 2021 and featured eight inspiring stories of role models. The booklet “Of course!2” you are holding in your hands presents a second collection of seven interviews of researchers who experienced gender discrimination and imbalance during their education or at their work place, in Germany, in Europe and in North America. They actively made positive changes allowing them to lead a happy and fulfilled life as a scientist. May these people inspire you and encourage you to pursue your dreams!

Sue's story by Annina Brell

FROM AN EARLY AGE ON, SUE WAS FASCINATED BY SCIENCE.

LOOK AT THOSE CLOUDS!



HER FAMILY ALWAYS ENCOURAGED HER.

I'M GOING TO BE AN ENGINEER!

YOU CAN DO WHATEVER YOU SET YOUR MIND ON!



BUT EVERYONE ELSE SAID NO.

THAT'S NOT A SUITABLE CAREER FOR A GIRL!



SO SUE BECAME A HIGH SCHOOL TEACHER. SHE LOVED TEACHING, BUT STILL LONGED TO DO SCIENCE.



AS A WOMAN IN THIS FIELD YOU'D HAVE TO BE EXCEPTIONAL

WELL, THEN I'M GOING TO BE EXCEPTIONAL



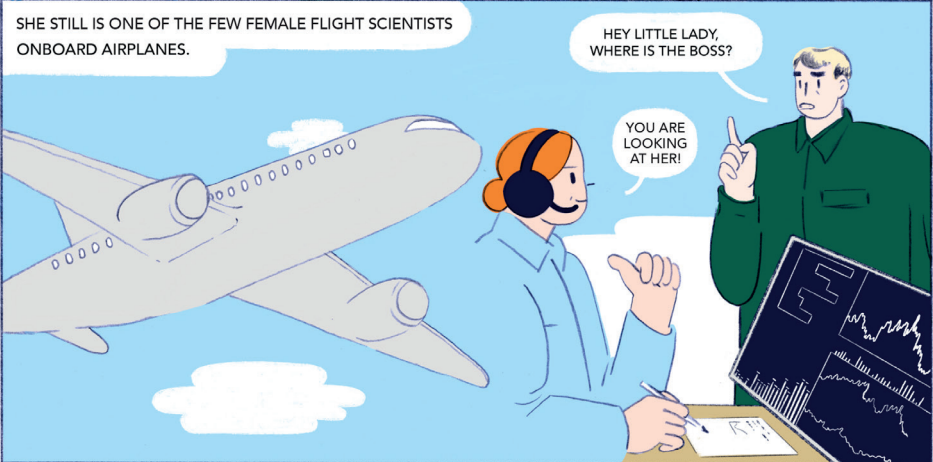
SUE DID A MASTERS DEGREE IN GEOGRAPHY AND NUMERICAL MODELING. SHE GOT HER PHD IN ATMOSPHERIC SCIENCE FROM COLORADO STATE UNIVERSITY. THERE WERE ONLY A FEW WOMEN IN HER GRADUATING CLASS.



AT THE START OF HER CAREER SHE DARED TO TAKE MILITARY TRAINING TO BECOME A FLIGHT SCIENTIST.



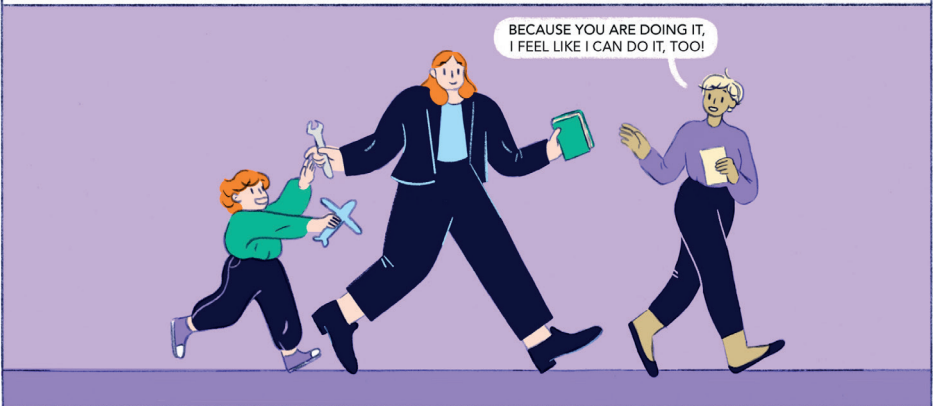
SHE STILL IS ONE OF THE FEW FEMALE FLIGHT SCIENTISTS ONBOARD AIRPLANES.



HEY LITTLE LADY, WHERE IS THE BOSS?

YOU ARE LOOKING AT HER!

TODAY SUE IS A CLOUD PHYSICIST AND PROFESSOR. SHE IS ALSO A WIFE AND MOTHER. STILL PEOPLE OFTEN DOUBT THAT SHE CAN DO IT ALL. BUT STUDENTS TELL HER:

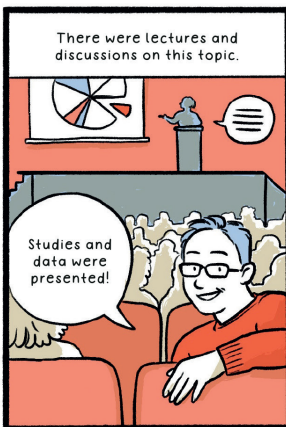
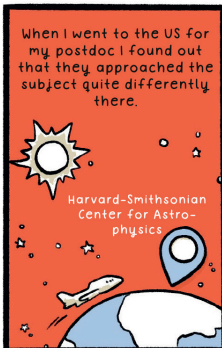
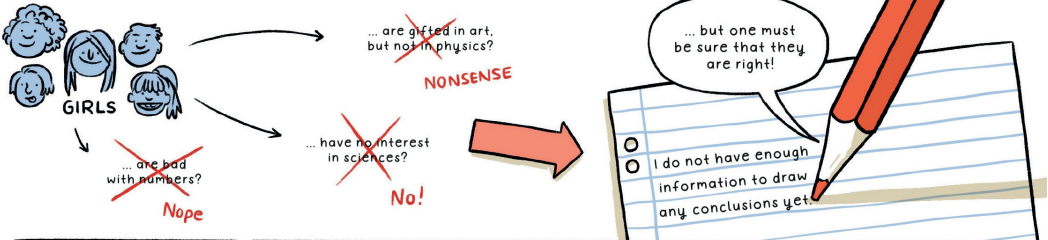


BECAUSE YOU ARE DOING IT, I FEEL LIKE I CAN DO IT, TOO!

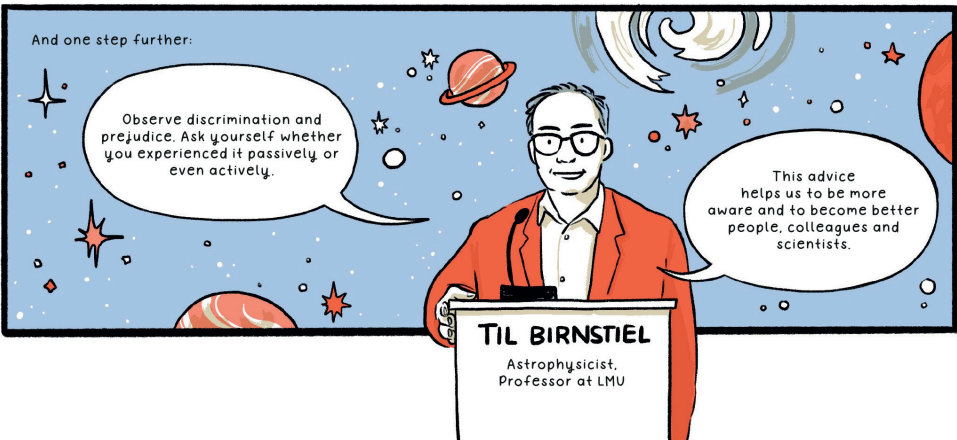
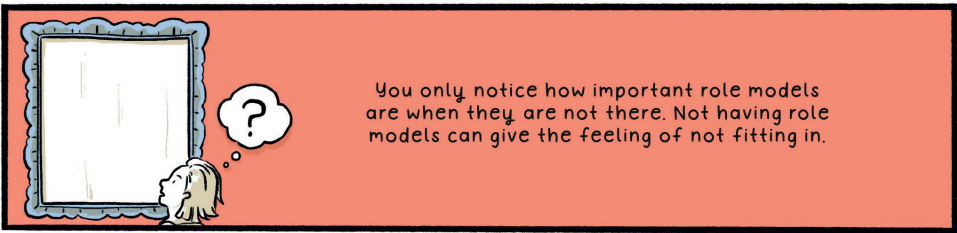
Til's story *by Franziska Rufflair*



Drawing wild conclusions is easy ...



As a man, I never felt that I needed role models.



Hella's story by Anaïs Poilpré

I did my master in New Zealand on stratospheric ozone.



I was fascinated by stratospheric dynamics, so I carried on with this topic.



During my PhD close to Munich, my supervisor introduced me to colleagues in Boulder where I spent two months.



I got to know a number of colleagues I worked really well with. I really enjoyed getting together to discuss scientific ideas.

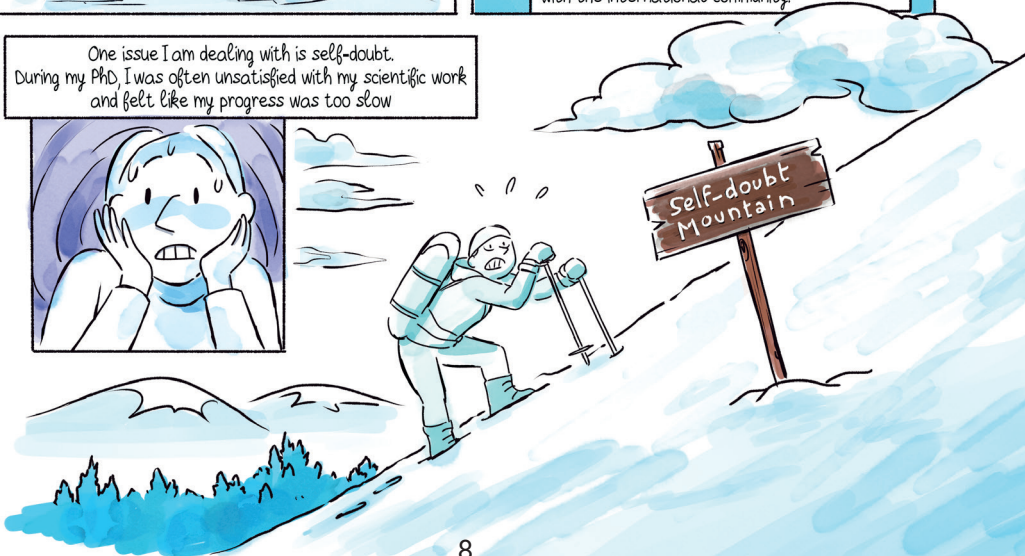
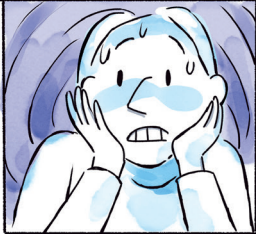


After my PhD, I went back to Boulder to do a Postdoc



My supervisors gave me freedom to explore my field and it was great that they connected me with the international community.

One issue I am dealing with is self-doubt. During my PhD, I was often unsatisfied with my scientific work and felt like my progress was too slow



Even today I sometimes wonder how I could possibly contribute to my field when so many of my colleagues are brilliant.

Taking on a leadership role does not feel natural, it's often challenging for me.

ROLE MODELS

Possibly in parts because most colleagues who are in such positions used to be men.

It was a challenge for me to overcome this "self-bias" when I became a junior group leader.

It helped me in my career to recognize and reflect on unconscious biases and to find my own path.

What keeps me going is the fun I have doing research and some of my colleagues whom I really like working with.

OWN PATH VALLEY

I recently obtained a permanent position as a scientist. And I have two small children.

My advice:

Believe in yourself!

Dare to ask questions!

Take responsibility!

and have fun!

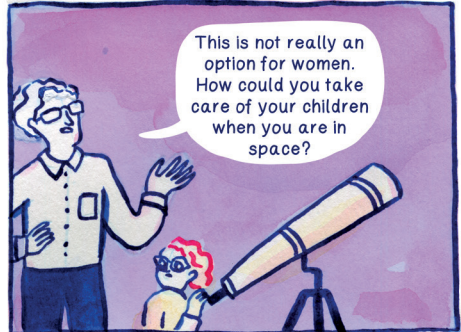
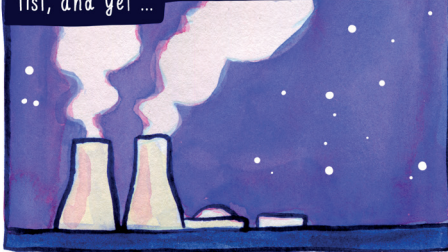
Hyatt

Verena's story by Sheree Domingo

Verena grew up in Ontario, Canada. Since an early age Verena is dreaming about exploring remote places.



Her father worked as a nuclear physicist. With him she learned to think like a scientist, and yet ...



Exploring the deep oceans was also in the back of her mind.

And she started studying biology.



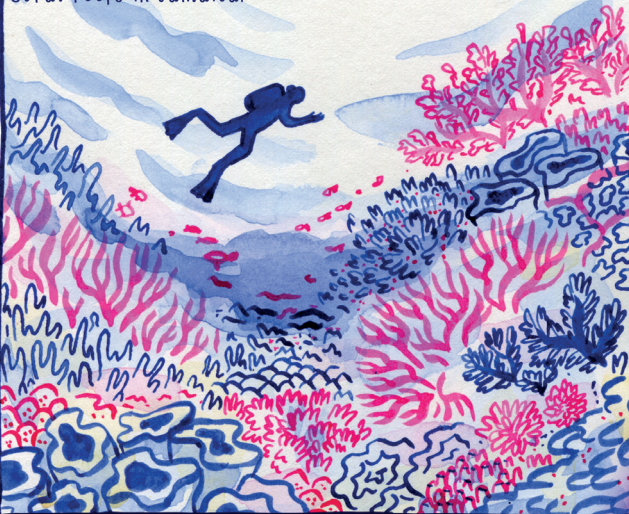
She saw the ocean for the first time at the age of 20, during a field trip to Nova Scotia. Her teacher had to fight to get her a position in the field, as no woman had previously worked in this department.



1974: The same teacher persuaded her to take a scuba diving course while she completed her degree.



At 22 she started Grad School in Yale, and did her PhD on Coral reefs in Jamaica.



At the time of her PhD, no one cared about coral reefs. But when their destruction revealed how important they are, her work started to get attention.

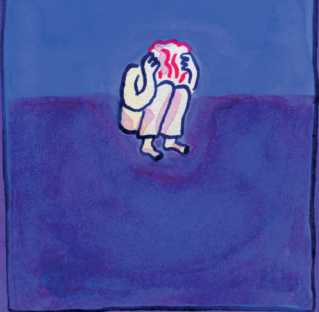
While she felt safe in the ocean ...



... life on land was a nightmare. Throughout her career, she had to face sexual harassment ...



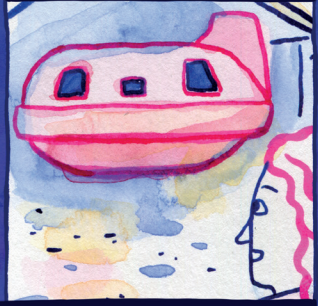
... while Men were always hired for the positions she had applied for. All this led her to depression.



One day ...



This was her "click" moment.



She took the chance and spoke to the people on the pier.. They were going on a test dive 800m deep in a fjord, and invited her to join.

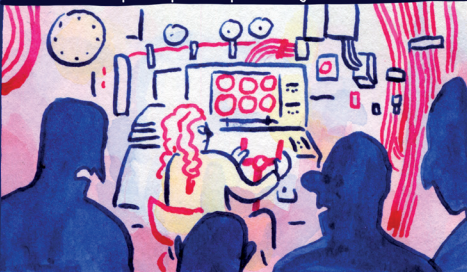


That was an eye-opening moment. So deep in the ocean, there was no sunlight, and what she saw changed her life. The following year, she got a faculty position in Canada.

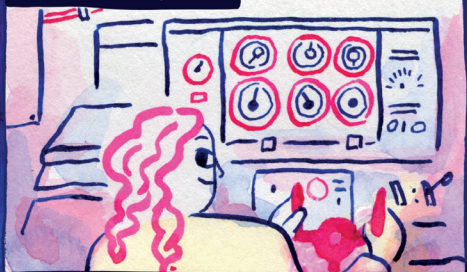


At the Age of 28, Verena became the first woman to lead a deep-sea science expedition close to Canada's West Coast. There, she made the discovery of hot vents.

With all-men crews, most considering women as pin-ups or porn figures.



But she was now in control and could handle the situations.

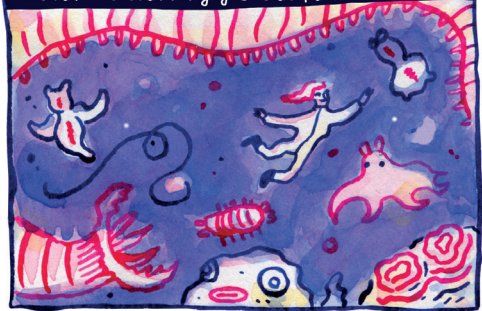


Verena has spent a lot of time on ships since then, as more and more women went to sea. She notices the atmosphere became more welcoming, and that men enjoyed life more as well.

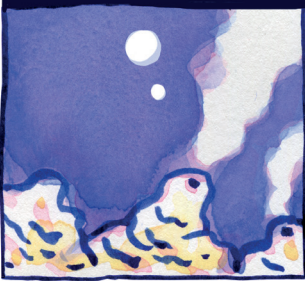
From the deep oceans, Verena learned about the diversity of life, and the many shapes it can take.



Nature is stunningly beautiful.



There are nearly 100 species described that she originally collected, ten of which are named after her. Like this hairy beast: the deep sea spider *Sericosura Verenae*.



The female passes the eggs to the male ...

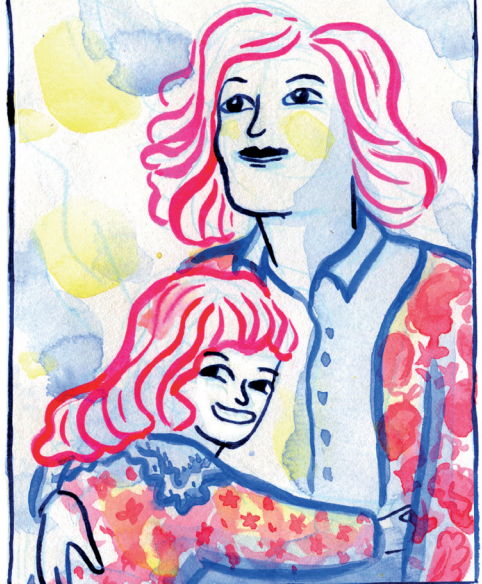


... who fertilizes and incubates them to hatching...



I do the care work.

Verena is happily married since 33 years, and has a wonderful daughter. An important message to her students: it is possible to combine an academic career and having a family!



Volkmar's story by Seda Demiriz

I have two daughters. Before you ask, they don't really know yet if they want to go into science.

That's fine with me!

Yep, we'll see!

In natural sciences, women are unfortunately still underrepresented in many areas.

Here in meteorology, they are no longer outnumbered. Yet, I observe that they speak up less often.

Hum...

$PV^{\Omega} \nabla^2 \psi = q - f$

10^{-6}

$?? \psi = ??$

But when I ask them for their opinion...

Almost! But there's still something missing.

Paula, what do you think?

...it is actually always worth it!

... by inversion of the potential vorticity

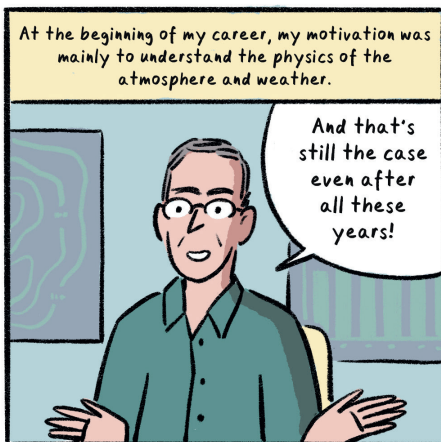
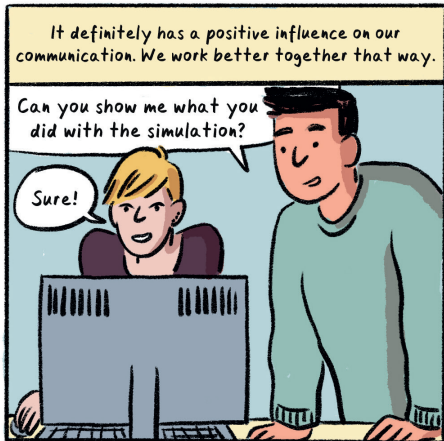
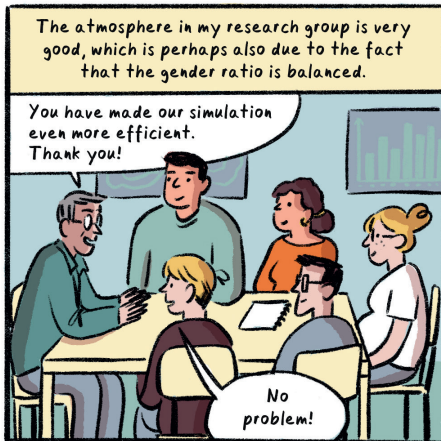
$\nabla^2 \psi = q - f$

Very good!

Usually, women only venture into physics when they are quite sure they can do it.

I don't GET this stuff!

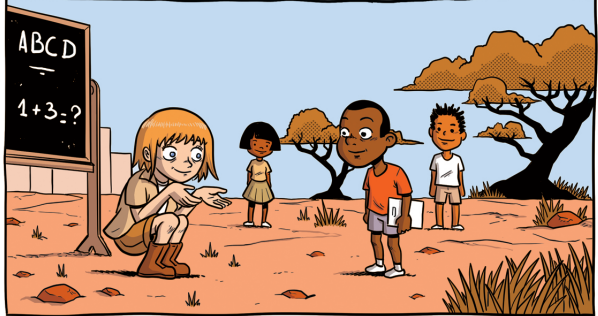
Want me to explain it to you?



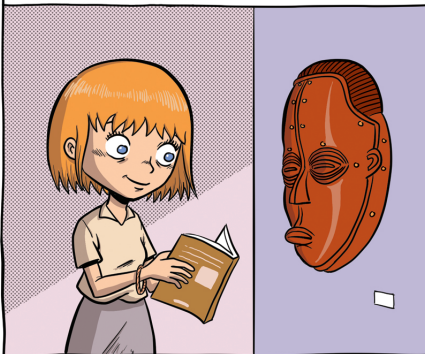
I've always loved puzzles and solving math problems... But it took me a while to find my dream job.



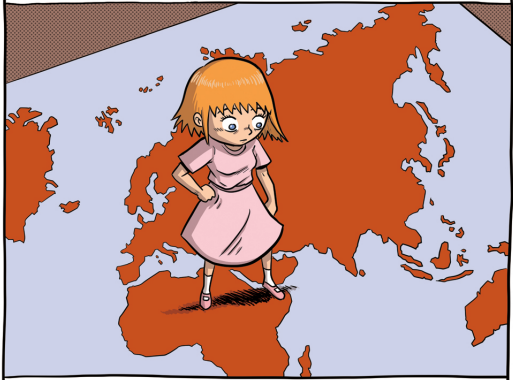
After I finished school, I spent a year in Nigeria as a kindergarten and a primary school teacher in an SOS Children's Village.



I came back to Germany to study ethnology and African languages.



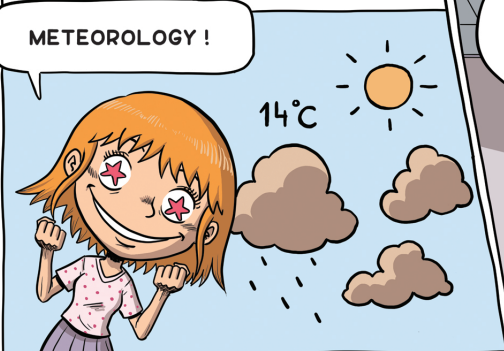
Then, I studied geography.



But all these jobs were not for me...

While I studied geography, one of my minor subjects involved mathematics, physics and was very relevant for society. I loved it.

METEOROLOGY !



So, I choose meteorology studies and thanks to learning and discussing with my fellow students, I got very good grades!

Yeah! I got an "A"!

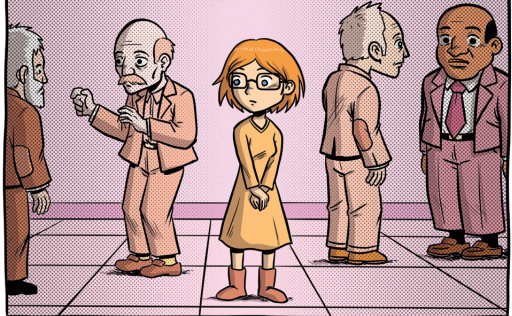
You can't have better grades than me! That's impossible. Girls can't do math!



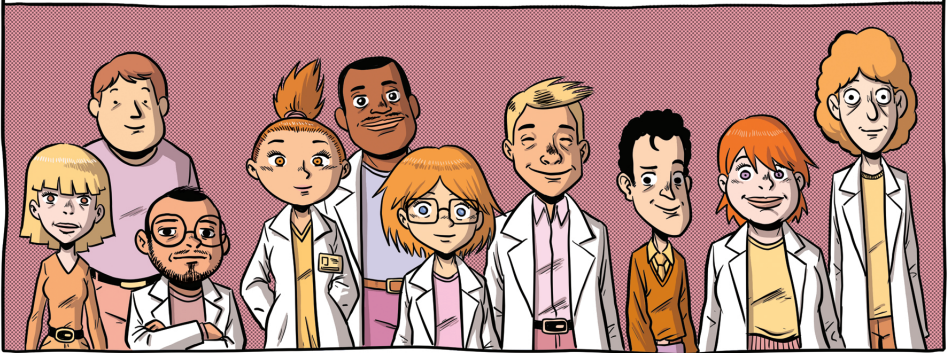
After my PhD, I went to Canada for a Postdoc and I became professor in atmospheric physics.



I was the only woman and all my colleagues were at least 20 years older than me.



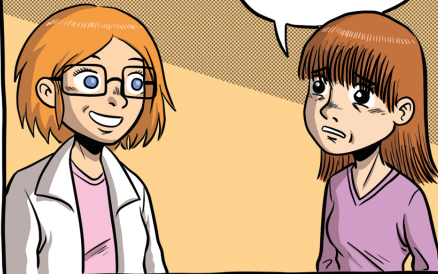
I'm now a professor for experimental atmospheric physics in Switzerland. My research group consists of 40% women and is very international.



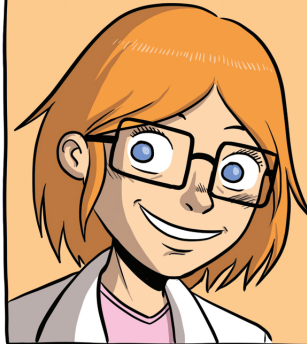
Ulrike supports her female colleagues in their career and offers mentoring.

You should apply for this position!

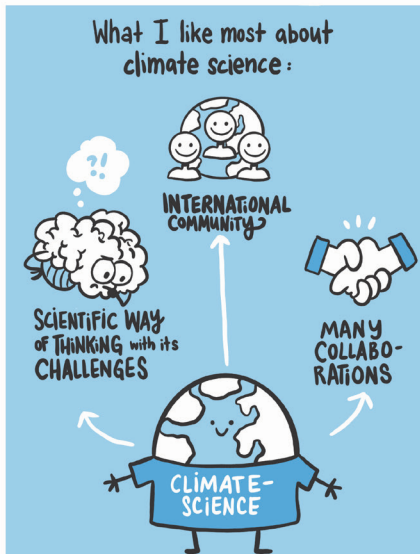
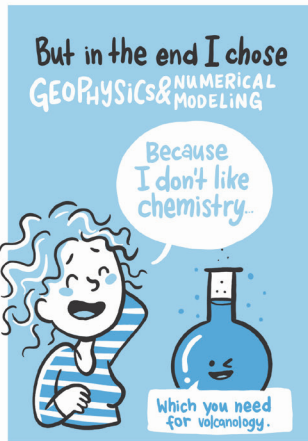
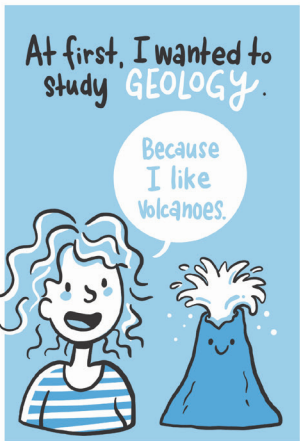
But Ulrike, I'm not sure I'm good enough.

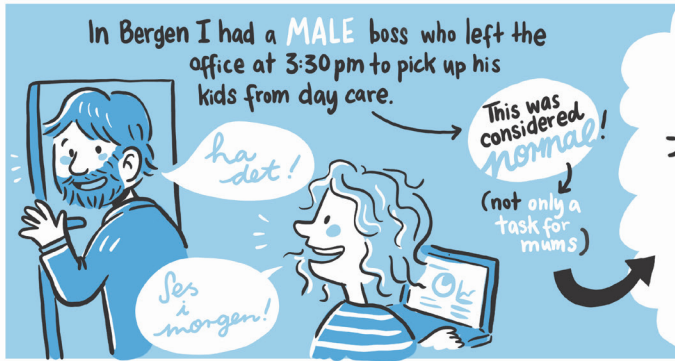


Apply even if you're not entirely fitting the job description. You can learn and improve as you go. Say "yes" to opportunities, and change path until you find what makes you happy!



VALLALE





It's possible to be an **established scientist & to start a family at the SAME TIME!**



During these times I became a bit "invisible", e.g. my results were used in a publication **without using my name!**



MORE THINGS I LEARNED

Which taught me to **STAND UP FOR MY RESEARCH!**

Positive Feedback is **extremely MOTIVATING!**

HAVE FUN!

Collaborations & teamwork can be more important than the **NUMBER of PUBLICATIONS**

Have kids whenever you want **WITHOUT** waiting for a **PERMANENT POSITION**

Don't **COMPARE YOURSELF WITH OTHERS** (all the time)

Don't be so **HARD ON YOURSELF!**

Learn from your **MISTAKES**



Illustration: JOHANNA „SCHLOGGER“ BAUMANN

Find out more about the researchers



Sue (S. 4) is professor of Atmospheric Science at Colorado State University. She was part of the collaborative research center “Waves to Weather” (CRC 165).

<https://www.atmos.colostate.edu/people/faculty/van-den-heever/>



Til (S. 6) is professor for theoretical astrophysics at the LMU.

<https://www.til-birnstiel.de>



Hella (S. 8) is a junior professor at the Institute of Atmospheric Physics of the German Aerospace Center in Oberpfaffenhofen close to Munich. She is part of the collaborative research center “Waves to Weather” (CRC 165).

https://www.wavestoweather.de/people/project_leaders/garny_hella



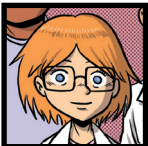
Verena (S. 10) is Emeritus Professor jointly appointed in the Department of Biology and the School of Earth and Ocean Sciences at the University of Victoria, Canada.

<https://tunncliffelab.wordpress.com/lab-members/about/>



Volkmar (S. 14) is professor for theoretical meteorology and atmospheric physics at the Institute for Atmospheric Physics at the Johannes Gutenberg-University in Mainz. He is part of the collaborative research center “Waves to Weather” (CRC 165).

https://www.wavestoweather.de/people/project_leaders/wirth_volkmar



Ulrike (S. 16) is professor in atmospheric dynamics at the Eidgenössische Technische Hochschule Zürich (ETH).

<https://usys.ethz.ch/en/people/profile.ulrike-lohmann.html>



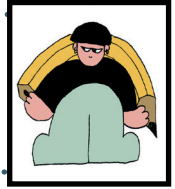
Petra (S. 18) is a senior researcher at the Norwegian Research Centre NORCE and the Bjerknes Centre for Climate Research, in Bergen (Norway).

<https://www.norceresearch.no/en/persons/petra-langebroek>

Amelie Lihl (cover) is an illustrator and graphic designer based in Munich.

Web: www.amelielihl.de

Instagram: @amelielihl



Annina Brell (S. 4) is a comic artist and illustrator based in Hamburg. Since 2017 she co-organizes the Comicfestival Hamburg.

Web: www.anninabrell.de

Instagram: @anninabrell



Franziska Rufflair (S. 6) is an illustrator specialized in business illustration and visual storytelling based in Mainz.

Web: www.franziskarufflair.com

Instagram: @flairflixt



Anaïs Poilpré (S. 8) works as a 2D animator in the film industry and also works on comic books. She lives in Angoulême, France.

Web: <https://anaiisbook.blogspot.com/>

Instagram: @hape_ap



Sheree Domingo (S. 10) is a graphic novelist, visual recorder and member of «Die Goldene Discofaust». Together with her dog she lives and works in Berlin.

Web: <https://www.shereedomingo.com>

Instagram: @sheree_domingo



Seda Demiriz (S. 14) is an illustrator, graphic designer and comic artist from Mainz. She works for clients in advertising, culture, science and for international publications. She loves coffee and science fiction.

Web: <https://sedademiriz.com/>

Instagram: @seda_demiriz, @lifeinpixels_comic



Vallale (S. 16) is an office worker who draws and makes comic books in his free time. He lives in Paris, France.

Web: www.vallale.com

Instagram: @super_vallale



Johanna «Schlogger» Baumann (S. 18) is a cartoonist and a graphic recorder, the author of five books, the mother of two children, and lives in Hamburg.

Web: www.schlogger.de

Instagram: Twitter und Facebook: @theschlogger



For more information on this project and additional inspiring stories, visit:

https://www.wavestoweather.de/equal_opportunity/activities/comic-book

Acknowledgments

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Collaborative Research Center “Waves to Weather” (CRC 165)

