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# IDUN

The interviews in this book are telling parts of the story of the powerful women (IDUN mentors) that inspired us to work hard and dream big.

The ten women mentors empowered IDUN mentees and all of us to turn dreams into reality. It was an amazing time of mentorship, learnings, encouragements, support and good times together.

We thank all for being such excellent mentors.

Your motivation and support have greatly contributed to the success of the project.



## Letizia Jaccheri (56)

Professor, Department of Computer Science,  
Faculty of Information Technology and Electrical Engineering (NTNU), Norway  
Professor II, UiT The Arctic University of Norway

### PI and Leader – IDUN from PhD to Professor

#### Elevating women

When Professor Letizia Jaccheri discovered she was the only woman in the management team at both the Department of Computer Science and the Faculty of Information Technology and Electrical Engineering, idea became action. IDUN was born.

“This was in 2013. It suddenly became very clear that I was surrounded by only men in two different arenas, both of which had power. Until then, I believed it was more important to work on equality at the student level, and I supported the Ada project at NTNU, which aims to educate more women at the Faculty of Information Technology and Electrical Engineering. But suddenly, I realized that we have to work at the higher levels as well, all the way from PhD to professor.”

Letizia Jaccheri is already fired up. This is one of her passions, and when she is passionate, she makes things happen — often quickly. She calls it flashover.

“In the beginning, I did what women often do. I developed a little project, and we got some funding. But I had bigger plans, and I applied for more funding. In the end, we had 10 million NOK in the pot and a three-year project. Among other things, we used these funds to recruit 10 female academics from European countries to mentor a group of PhD students, postdocs, and young researchers here at NTNU. The corona virus pandemic has brought this project to a crawl — but we hope to speed things up this winter (talk in 2021).”

#### From PhD to professor

IDUN is a unique project in terms of motivating more women to pursue professorships. IDUN has become a development project, but at the same time, it is a research project, looking into how to get women to pursue an academic career when they have completed their PhD.

Letizia Jaccheri believes women (and men) should not wait so long before they become leaders. She was 47 years old when she became head of department.

“We want IDUN to lead the way. We hope that the mentors we have recruited can provide insights and feedback and serve as role-models for participants. In time, we hope the women’s share in academia will increase. Because this change won’t happen overnight.” Letizia herself felt she had no other choice than to continue in academia when she came to Norway from Italy as a mother of young children in 1997.

“Academia was no fun back then, really. I have a husband, too, of course, but that time with young children is always exhausting. But for me, there was no way back.”

And so, she started the tough process of self-motivation. This entailed making her job feel both significant and fun. The idea of becoming head of department or a professor did not even cross her mind. “And I had definitely no idea I would be chosen for an equality award down the line!”



### Serendipity

She ended up in the informatics programme by chance because she thought it was going to be about journalism and information.

“And then it was computers! That was disappointing, but also, it was an exciting time at the University of Pisa. Computer technology and informatics were relatively new fields in the 1980s. There were 1200 of us in the programme, from all over Europe, and we had lectures in abandoned churches and cultural halls to fit all the students in. We worked at the intersection of computers and the humanities, computers and art. And there was actually quite a few girls in the computer programmes back then. Several of them have gone on to have amazing careers. It was a lovely time.”

### Her brown eyes sparkle

She may not have said so, but Professor Jaccheri does not think computers are particularly interesting.

“I need more. Software engineering and society, or software engineering and gender. Computer technology on its own is simply too boring. There has to be some purpose to developing new software beyond making someone rich. Computer technology must be used to make society better,” she says, emphasizing every syllable.

### Good role-models

As a child, she dreamed of becoming a teacher or an author, but she didn't have the confidence to pursue writing. Her father was a lawyer, and he wanted her to follow in his footsteps.

“But I didn't want to. My maternal grandmother was a teacher, born in 1909. She wanted to work, even if she did not need to. She wanted to be independent, and I thought that was cool. She was a tough lady and definitely a role-model for me. Other female role-models largely come from literature.”

She wants the IDUN project to encourage women to shed some perfectionism and assume leadership roles to a much greater degree than they do today. And to do that, you need good role-models. She had a male professor who was passionate about promoting a better gender balance in computer technology. “I gained a lot from him, but I also listened to him.”

### Being elevated

“At NTNU, Kari Hag, professor of mathematics and equality champion, is my female role-model. When

you speak to her, you feel great. She is able to elevate you in a conversation. It's important, but it is not easy. She has taught me so much, and she is humble.”

*What motivates you to keep going?*

“Right now, being able to work internationally and with equality is what motivates me. I'm working with a Chinese researcher, who recently said: ‘Sustainability is not a problem for Norway or China — it is a global problem.’ And being able to grapple with these types of problems is something I enjoy. It means something in the world. So does equality.”

*Your efforts over the past 30 years are now bearing fruit. What are your thoughts on that?*

“I think that the world has opened its eyes more to gender equality and equality in general. I've read a lot about gender equality lately. More women are stepping into the light now, I think. More than before. Or perhaps that is because I follow them?”

At a student level, NTNU has achieved great results, much to the credit of the Ada project, among other things. The share of female students has increased from 6 % to 25 % in 20 years. Fewer women drop out, and they get better grades. At the level above this, from PhD to professor, we still have a way to go, but NTNU and Norway are not doing too badly.

Jaccheri is the chair of a similar project to IDUN at a European level.

“That's when I learned how far we have actually come at NTNU in terms of getting girls into universities and women into leadership positions. But there is still work to be done, things will not happen on their own. We have a responsibility to elevate girls and women through mentoring schemes, such as IDUN. At the same time, you also need a personal drive.”

Letizia Jaccheri will continue to motivate and lead the way for women in academia. Her achievements were recognized when she won the “ODA Awards Woman” in the spring of 2021 and NTNU Gender Equality and Diversity Award in June 2021 for her efforts in getting more women to pursue an education in technology.





## Anne Håkansson (59)

Professor in Computer Science  
UiT – The Arctic University of Norway  
Adjunct Professor, Department of Engineering Cybernetics, NTNU

### Both legs firmly on the ground

**Before Professor Anne Håkansson had even completed her doctorate, she had decided that when she became a professor, she would hire female candidates and become a mentor.**

"This pledge to myself was quite simply borne from my own experiences as a doctoral candidate," she says. "Just note I have nothing at all against male mentors!" she emphasizes.

When she was a doctoral candidate, she went long periods of time without a mentor, and she was forced to work hard entirely on her own. "My first supervisor, quite oddly, took a sabbatical in the middle of my work, and I was assigned a replacement who was lazy, without the right expertise, and who did not help me at all. I was literally left to my own devices for more than a year. It was not a good feeling, and my confidence took a real hit.

I don't want anyone else to experience what I went through, and my experiences meant that when I was asked to become a mentor in the IDUN project, actually not long after I became a professor at the University of Tromsø, I said yes. Of course!"

### Always researching

Ever since she was a little girl, Anne has been curious and wondering how things work. She wants to know how things work. "I've been researching since I was three, and my first memory involves me trying to figure out how hens could lay eggs. I think I was quite creative!"

She laughs heartily.

"I grew up in a small town in northern Sweden. We didn't watch TV very much, and mobile phones did not exist when I grew up. We were naturally curious and had to find things to do on our own."

As a young girl, she wanted to become a fighter pilot, but that was, of course, impossible. Women were not allowed to become fighter pilots back then. Eventually, she became interested in data and computers.


### Early computer nerd

"I got my first computer when I was just 14 years old! My dad gave it to me. It was a Commodore 64. I didn't know anybody else who had a computer, but that didn't stop me. I think I have always been seen as a bit unique and different, because I have dared to do things differently, as a child, in my teens, and as an adult."

In the beginning, she focused on finding out how things worked, and after a couple of years, she started programming. She developed rules and tips for how things would be. Then, her family moved back to where she was born, where she took programming classes and really enjoyed it. "But I still didn't think of it as a career option."

*Did you have any role models, who led you to academia?*

"I think that would have been my mum. She got a degree well into adulthood. My father also studied at university. I don't think I had any great ambitions about higher education, but my mother suggested I pursue an education in computer and strategy games. And she pushed me to explore different computer programmes to find one I liked."



By then, the Commodore 64 had been replaced by a Compis, and then a Mac II. "So I was well prepared when I started university; I had tried all of these before."

Once she had completed her master's degree, she had no interest in a career as a professional consultant. Instead, she wanted to develop the systems further, and she started teaching at the University of Uppsala.

"I really enjoyed that. Not just the teaching, but the whole social aspect of having students. So that sort of became my fate, and I have not regretted it at all." Anne was incredibly fascinated by artificial intelligence and started studying AI early on. She is still working with this field, and it is becoming more and more interesting.

### **The path to professorship**

The fact that she is a professor is not a coincidence, but getting there has been a long and tough process. It includes two doctorates, among other things.

"For me, it has taken some time to build confidence and to feel like I'm competent enough. It's been like that at every level for me. I applied for a professorship in 2018 after a colleague in Sweden said to me: What have you got to lose?"

Anne applied and got the offer, which she accepted. But it has taken her almost until now, in 2021, to feel like a professor. "For me, it always takes a while for competence to come naturally, for me to say that I know"

*But does one have to have all the answers to be a professor?*

"No, but one would like to." Anne laughs again. You say that you have had to fight as a woman in academia. How have things developed, do you think?

"I have thought about it, of course. I find that I have to be tough and develop thick skin. Being around men

all the time actually changes how I speak — I become more firm and unapproachable. But I know who I am, I have both feet firmly planted on the ground, and I trust myself. That is something I try to pass onto my mentees."

In the IDUN project, she mentors three women and two men. "I have a great team."

### **Wants change**

Anne hopes more women will help change academia from within. "We have to build each other up and not push women down. We have to play to each other's strengths. If we want more women in universities, we have to be visible role-models for them. It's important that you actively participate in the different settings, because nobody else will do it for you," Anne concludes. She has personal experience with this.

As many other academics, Anne Håkansson has lived in several countries. She has a husband, children and grandchildren, as well as an elderly father, living in various places in Sweden and the United States, while she lives and works in Tromsø, Norway. This means that she, like so many other academics, has the opportunity to work a lot.

"It's a part of me. I like to work. But I also like to get outside, in the fresh air, for hikes in the forest, where I pick berries and mushrooms. I love that. Just sitting outside, with the sun on my face and a cup of coffee, taking in nature... it soothes the soul. I need to get outside and move regularly when I work as much as I do."

*Are you surprised by any of your achievements?*

"I'm surprised I have come as far as I have. I am actually proud of this journey. That's something I have not considered until now. I dared to explore the options in my field. And I have dreams that have come true. That is great. Sometimes one can be surprised at what is possible."



## Astrid Aksnes (59)

Professor, Department of Electronic Systems,  
Faculty of Information Technology and Electrical Engineering (NTNU), Norway

### Leaving a trace

Being the only woman in the company's hardware department in Oslo in the mid-1980s left a trace. When Astrid did not comment on the posters of lightly dressed women on the wall, they were quietly taken down, one by one.

"I think they actually became embarrassed after a while," says Astrid Aksnes, thinking back. She has been the first woman in several places where she has worked.

She remembers being a little annoyed when her colleagues said she had changed the work environment. She thought they meant for the worse, but then Astrid noticed it, too. She would walk past the meeting room, where her male colleagues were arguing loudly. When she was in meetings, the tone became more polite. The temperament was different. And her colleagues commented that the work environment improved, got less harsh.

### Spaced out professors

Her family moved to the United States when Astrid was two years old, and back home to Norway when she was 15. It was a hectic life — moving somewhere new every other year due to her father's job as an astrophysicist. His jobs took them all over the United States. She grew accustomed to adapting to new environments. That has served her well in her professional career.

"I have always been curious about how things work," she says. "And I already knew, as a little girl, that I would get an education."

With a father who was a professor of astrophysics, and a mother who was a teacher, there was never any

doubt about that, in Astrid or her two sisters. But she wasn't planning on becoming a professor.

"When I was growing up, I thought these astronomers who visited our home were so removed from reality. They walked out into the garden and looked eagerly up at the stars."

Astrid wanted to be an electronics engineer with a career in the industry. Her wanderlust brought her to the University of Glasgow. After her studies, she started working at Elektrisk Bureau in Oslo in 1982. "My mother instilled in me early on that I had to get a good education and become financially independent."

### Change of course

Astrid was working at Ericsson in Oslo when her husband came home and asked if she would be willing to move to Trondheim, because he got a job offer. She was, and she saw an opportunity to pursue a doctorate, driving the field toward photonics.

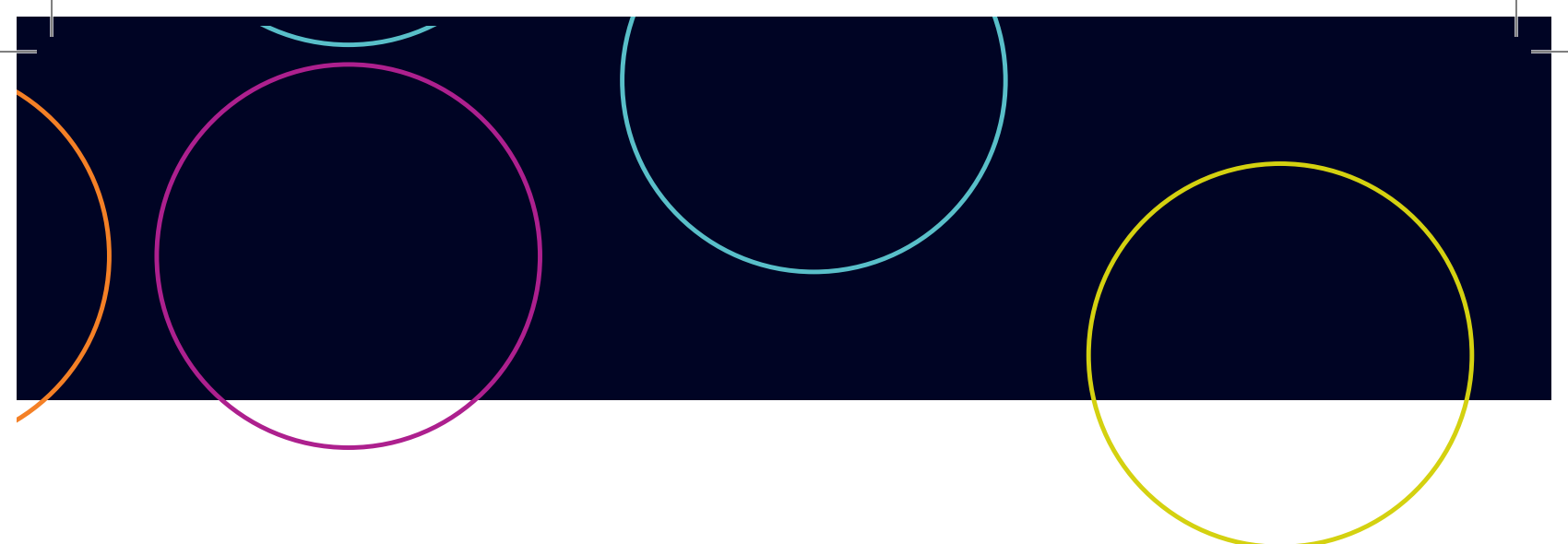
"By that time, I was pregnant with child number two." When the child was born, she secured a fellowship in the Department of Physics.

Before she had completed the four years of her doctorate, she had child number three.

"When I got pregnant again, my supervisor dismissed me. This was a common way to drop out with honour. I had never thought of it that way, because with three children, I just had to finish it — the kindergarten was expensive, and children are expensive," Astrid says, laughing.

But she gets why he said it. "It was tough for women.





Thankfully, the system improved with time. When I had my first two children, I had 16 and 24 weeks of leave. With my last child, I was able to take 42 weeks of leave with full pay."

### **Biosensor and environmental monitoring**

Professionally, Astrid works with electronic systems, and photonics in particular. She develops new types of sensors and labs-on-chips. These tiny chips are developed in the NTNU Nanolab. The sensors are used to measure the concentration of biomarkers, in order to monitor and diagnose various diseases. The sensors can also be used in environmental monitoring by using a different type of surface treatment. Astrid has also worked with fiberoptic sensors, liquid crystals and display technologies. She got her doctorate in interferometry.

### **Helping society**

Rumour has it she is stubborn and goal-oriented. "I have simply become very good at estimating time," she says. "I had no choice — I had three children, doctoral goals and later research projects and students."

Astrid's rule of thumb is always to plan for things to take twice as long as you think in complicated projects. That usually works out fairly well. She worked at SINTEF from 1997 to 2003 and transferred to NTNU to get closer to her field.

"I like to be useful, and I like to think that what I'm working on can be used for something that is useful for society and for other people. That's why I'm drawn to environmental monitoring, biosensors, that's what triggers my curiosity and my tenacity; that we can help society."

### **Inspired by young enthusiasm**

She is inspired by young, eager students, and she finds teaching rewarding. She did not originally think she would.

"But following these students' interests, passions and openness is very exciting. Among what inspires me

most is being able to light a spark and see their interests, performance and confidence take off. And part of why it's so good to be a mentor is the interaction and the opportunity to motivate," she says. "I still have connections in the business and I can help my students build their network. In addition, I want to teach my mentees to be ruthless about prioritization."

### **Direct language**

Being one of very few women in a heavily male-dominated field is mostly fine, according to Astrid. She is good at firmly rejecting people and uses a clear, direct language. This is something she learned when her family moved around the United States and she had to go to a new school every other year.

"People will try you, and I quickly discovered that the best approach was to have an immediate come-back without crossing the line. I quickly put people in their place."

### **Giving herself some slack**

After the children moved out, she has resumed interests outside of work, such as singing in a choir and going for long mountain hikes.

"Yes, and I like to renovate, but I want to do it myself. I paint, lay floors, insulate and install kitchen cabinets. I give myself permission to not be perfect in the beginning, and then I improve my skills as I go. My mother was very handy, and she did a lot of the renovations at home when I was a little girl.

I'm actually a perfectionist, but I think you have to give yourself some "slack" — because if it has to be perfect right away, you would never get anything done. I think that's important. It applies to studies, too. You have to take the time to learn and build your knowledge. It's important to not get pressured into doing too much, because you also have to finish," Astrid Aksnes concludes.



## Darja Smite (42)

Professor of Software Engineering,  
Blekinge Institute of Technology, Sweden  
Adjunct Professor, Department of Computer Science, NTNU

### When serendipity happens

**Darja Smite had never planned to become a professor. Had she told her teachers in school, they would have been surprised. Today she thinks she has the best job in the universe; "Pure luxury!"**

Something happened along the way, but what?

According to Darja, it was a stroke of serendipity. She comes from a creative family in Latvia of graphic designers and actors. When she was a little girl, she dreamed of becoming a cartoon animator. "I was fond of drawing and still am. But this was the one time my mother said it was not a good idea. It was hard to have job stability. My parents both had creative professions and had first-hand knowledge about the obstacles".

Then she thought of becoming an architect. She had always been fond of architecture and interior design, but she didn't take that path either.

"This is why my next choice was motivated by something I was good at".

She liked maths and physics too, although she never had computer programming at school, due to reforms. She ended up bravely choosing computer science, motivated to enter a field promising a bright future.

"When I started my studies, the most popular university programmes were economics, business and law. And that, I thought, would give me no competitive advantage in the job market. So, I chose computer science. I started in 1997 when the field was on the rise in Latvia. And I am so grateful for my choice today! It was probably my destiny or a pure coincidence."

### A hobby on the side

Darja was born in Riga, the capital of Latvia, and she completed all her education in the country. Before she entered the academic world as a researcher, she worked for several software companies as a programmer, systems analyst, and project manager.

"I loved it," she says. "Working there provided me with a feeling of a profession, and it was very creative. You could talk to customers and help them make their work-life better". At 22 years of age she also started working as a teaching assistant at the university in addition to her other job. "At that time, it was a kind of a hobby on the side of my 'real' job," she says. Darja's career could have peaked as a consultant.


"I liked my job; I had my goals. I wanted to become one of the best consultants in this business. I knew exactly what my future would look like or, in other words, which mountain to climb."

### Never go back

So, what happened next?

A professor she knew from the university asked her if she was interested in doing a Ph.D. And as she found the subject interesting, she said yes.

"But he had one condition – I had to resign from my industry job and focus on the Ph.D. and not do both. I cried for a week. I loved my industry job very much. And then I was introduced to a prospect of something totally unknown. I did not know what horizons a Ph.D. would reveal to me. It was a different mountain to climb. But when I started and realised what I could do – I could never go back."



She ended up in Sweden when she was invited as a guest researcher to visit the Blekinge Institute of Technology at the end of her Ph.D. studies. "I came for three months, and I guess I liked them, and they liked me, so I never left. Now I have been living here for 13 years, which means most of my adult years".

Most of her time at the university is dedicated to research since she's involved in several research projects. "During the pandemic times, for instance, I've been studying how people are coping with working from home, following several Norwegian and Swedish software companies this past year. And now we also realize that people want to continue working from home, at least part-time, in the future. It's an interesting topic. And it's rewarding to be able to make an impact on the future work policies".

#### **Passion for work**

Her entire family is now living in Sweden. "I do work a lot, but I manage to be outdoors swimming, picking mushrooms, and from this summer, we have a little motorboat as well. As a granddaughter of actors, I also love theatre. With my son, who is soon to turn 7, we started playing piano together". Her family has followed her and played an important role in her career. "My mother has cheered me on and expressed sincere interest in my work. I guess I can say that she has been a role model to me. I admire her passion for her work, a feature of character that I can feel in me myself".

When asked to say what has surprised her on her career path to professorship, Darja admits that the very

fact that she is a professor in a technical field is quite surprising. "I did very well at school, but I have never sat at the desk long doing a lot of homework. I liked to go out, and I was social with a lot of different interests. I would never have thought that I would become a professor."

#### **Becoming a mentor**

Darja became a professor at a young age. She was 34 when she received the title in Latvia and 37 in Sweden.

"I have made a lot of choices in my career and worked with different people and companies. I have a lot to share. And IDUN is also offering a mentors' program so I can become a better mentor after this."

Looking back, she has been very fortunate with mentors throughout her journey.

"They have recognised my abilities and gently pushed me in the right direction, and when the right time arrived, they supported me to go further and apply for promotion. No, I did not need their approval. I never doubted myself – this is one of the things that I am proud of. Similarly, I encourage my mentees to be bold enough and knock on the doors they want to open even if they are closed at the moment. Because if you don't knock, they will never open, and with IDUN we can clearly show that there are also many strong female professors in our technical fields."





## Gro Klæboe (44)

Adjunct Associate Professor at Norwegian University of Science and Technology (NTNU)  
Team Lead Production Optimization, TrønderEnergi AS

### Hard-hitting mentor

Three things Gro Klæboe never would have thought she would do when she was in her early 20's:

- 1) Get a doctorate in engineering at the age of 31.
- 2) Become the Norwegian kickboxing champion at age 41.
- 3) Become a mentor to other PhD students.

Today, she can cross all three of these off the list. Life sometimes takes some surprising turns, and she would know it. Let us start with engineering.

"I had actually never considered engineering as a career for me," she says, laughing. "I thought I was going to be a journalist when I first became a student. But I wasn't!" She looks almost puzzled.

Gro Klæboe (43) currently works in the energy company Trønderenergi, where she heads a department working on long-term hydropower planning. She looks back on her student days and her early career as an interesting, fun and educational journey.

"That's the time in your life when you are figuring out what you know, what you like and where your passions lie, isn't it? I have taken several courses in both economics and environmental studies. And my environmental interests led me to industrial economics, which is an interdisciplinary programme."

### The back door to an engineering degree

She ended up with a master's degree in social economics and landed her first job in a company called Powel, which, among other things, helps energy producers maximize the potential of their production portfolio. And this was where she surprised herself by using the

back door into engineering and pursuing a doctorate. "If you had asked me at age 20 if I would ever study at the Department of Electric Power Engineering, I would have said: Never!" Over the course of my studies, I learned that I like to work with things that are quantifiable. It's very satisfying to get to a definitive answer. Over time, I tried many different things, which led me to a doctorate. That's where I found that it is amazingly satisfying to set aside enough time to really get to the bottom of a problem. I'd say that's what counts as luxury in academia."

After she completed her PhD, she accepted an industry post-doctoral position, and she started working at TrønderEnergi in 2017.

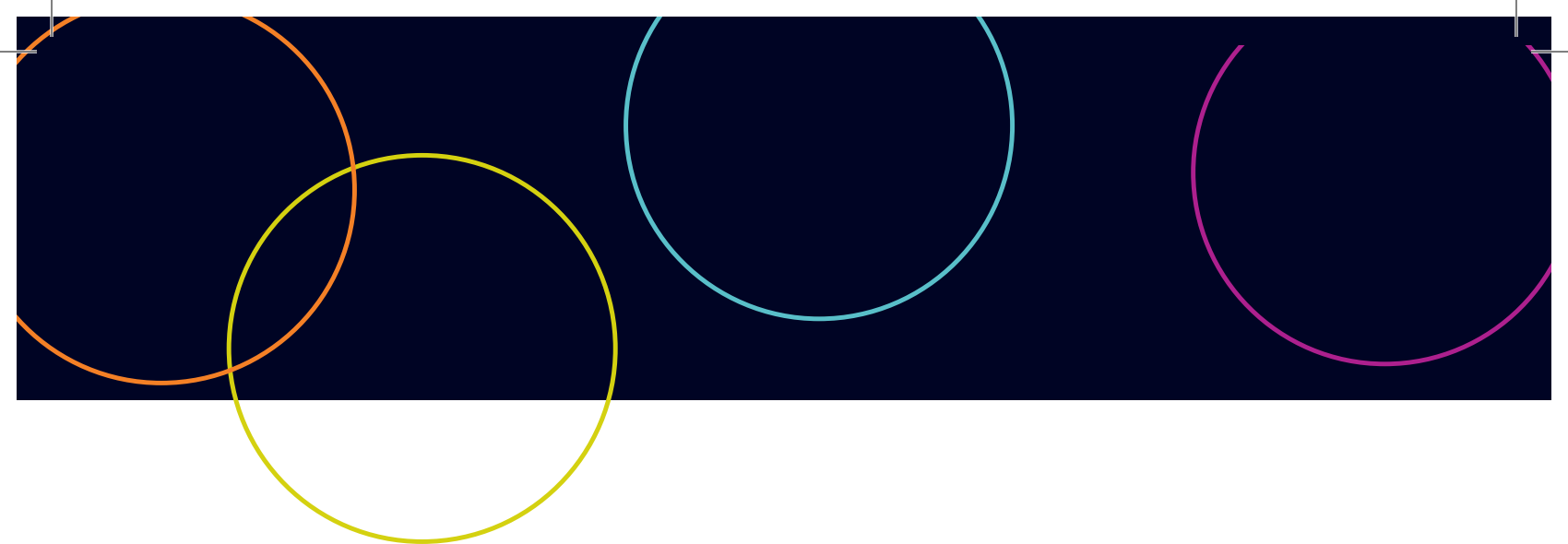
### Equality from childhood

If Gro is asked to identify a role-model, she points to her mother and grandmother.

"My mother is my biggest fan and proud of my achievements. She was a teacher and had a professional career for a while. In the 1980s, she was a big champion for equality. So I guess equality is an ideal instilled in me from childhood, and I think it has had an effect on me. My grandmother had no formal training, but she still found a full-time job as a single parent in the 1950s. And while my parents had to move to wherever they could get their children into kindergarten when they finished their education, I expect kindergarten to be available wherever I chose to move."

### From 100 to 50

Gro has seen a shift in Norway since she first started working in the energy industry, which has been, and still, in some ways, is, a male-dominated industry.



"When I first started working at TrønderEnergi just four years ago, my first conference was 98 % men in dark suits. And we went to a football match. Today, 50 % of our directors are women, and equality is no longer a major issue. But whenever I go abroad, I still sometimes find myself being the only woman among men at conferences in my field. And then I often get asked where they (the men) can find coffee and get pens."

"Do I answer them? Sure, but perhaps not with a smile" But it takes more to knock out Gro Klæboe. That much we have learned.

### **Tearing down walls**

*Do you consider IDUN to be a feminist or equality project?*

### **Gro needs a minute to think**

"The goal of IDUN, as I see it, is to elevate the working environment and how we treat each other. The idea is to tear down some walls. Academia is still a very hierarchical system, as one of the last bastions where positions are what matter. I believe women are more focused on solving problems as a community than on being rewarded with prestige, honour and citations. If we are all able to focus more on solutions than on prestige, it will become more attractive for both women and men to work in academia."

### **Making academia more attractive**

When IDUN knocked on her door and asked if she wanted to become a mentor, she said yes immediately. This is an opportunity to ensure that academia is a nice place to work for women, too.

"Women who pursue a PhD are dedicated, and they often don't need a 'cheerleader', but perhaps a friendly nudge and small adaptations that keep them from losing their spark and energy.

She thinks very few people pursue this path because they want to become professors, because that is something that matures over time and comes with the joy of academic discovery and need to explore.

### **All-important balance**

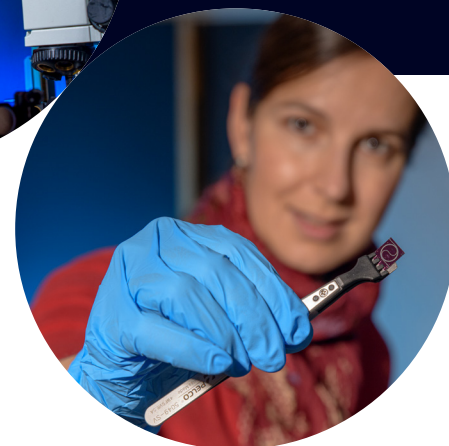
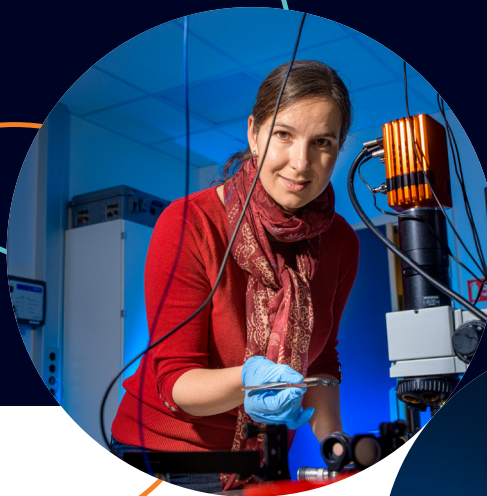
Gro believes more women than men have other things they want to spend time doing besides work. She is married, with two children who need her attention, and a pretty hard-hitting hobby. Because when Gro is not doing anything else, she fights!

"I got involved in kick-boxing when I was 27 years old. As a child I was not involved in sports, but for some reason, I decided to try kick-boxing. And that turned out to be the right sport for me. I get cardio, strength, mental agility and flexibility, all in the same sport. In addition, there is no requirement that you have to be particularly graceful. I'm just doing this for fun, so becoming the Norwegian senior champion at age 41 was something I would have never believed could happen!"

### **The best of two worlds**

Gro Klæboe feels she has found her place in life – both professionally and personally.

"I really enjoy having one foot in the door in academia. I'm impatient by nature, and I like seeing things put to use. I get that in the industry. But academia gives me an opportunity to learn new things and really dive deep. Switching between the two gives me a good balance in my professional life, and at the same time, I get the opportunity to make more women believe that they can do it, too. Nothing can be better than that."



## Jana Jágerská (40)

Associate Professor Ultrasound, Microwaves and Optics,  
Department of Physics and Technology, UiT The Arctic University of Norway  
Adjunct Professor, Department of Electronic Systems, NTNU

### Small is beautiful

From secret agent to pilot or a career in the army. Jana had many dreams when she was younger, and all of them involved excitement, daring and investigation. Just what a scientist needs to go forward and get results.

"I was quite curious about the army because I always wanted to do something exciting with my life. But when I realized the values in the army, and that you had to follow orders, I said no. That was not me at all! I grew up with confidence and stubbornness and I can take a fight for a good cause."

"Since both my parents were engineers with diplomas, it felt natural to go to university. I've always been good at math and physics. That was my main motivation for choosing my study direction. For once I was going to choose a path that I was good at, hoping that I too can do something big and good for humanity one day."

### Influenced by people she met

She commenced an integrated master's programme in nuclear sciences and physical engineering at the university in Prague.

"My specialisation was totally influenced by people I met, professors and mentors, and there were two women from optoelectronics that kind of inspired me among all the male professors.

These two women were very well known within the university: for being good at teaching, communication, and very strong in research. One worked on applied projects with the hospital, so it had the social aspects to it as well. Seeing that helped me understand that

the field was not only for men. And that a girl like me could also do it."

### Small things

Jana's research field is within nanophotonics, and she makes integrated circuits for lighting. She is currently building up a lab and expanding her research group. "We are developing sensors for greenhouse gas monitoring – I am looking forward to seeing my sensors fly – putting them on a drone and really seeing them fly." "They are small, cute, and require very careful handling, a steady hand, and a lot of patience. You know, like a woman's hand", she says with a smile.

### Fighting for equality


Over the years, Jana has repeatedly had to fight for respect, especially with the industry in the German part of Switzerland, even when she was a project manager.

"So, I started acting harsh or almost arrogant to show that I was the boss there. In the end, it worked out – but it was hard and draining my energy. This was almost 10 years ago – and the times are slowly changing."

### From the Big Bang Theory...

"For me, every new step I have achieved after my diploma is a big surprise, because I did not see myself in an academic career. I somehow had the feeling that good researchers in physics must be nerds, like those from Big Bang Theory."

She had a lot of other interests including rock climbing, skiing, extreme skiing, and wanted a life that gave her that and not being closed up in the lab all the time. But that was about to change.



She went first abroad with an ERASMUS scholarship, which motivated her to continue studying and traveling. She applied for a Ph.D. programme in Switzerland, to which she was admitted. She also took her first postdoc there, switching between the French and the German parts of Switzerland. Every four years, she has changed place and country. "It was a way of living I learned to enjoy; and which I somehow got addicted to."

#### **"I can live here"**

Now she has been in Tromsø since 2015. "I went to Lofoten on vacation and suddenly thought; how nice it would be to live and work here. Only a few weeks later, by pure coincidence, I saw a job advertisement for a postdoctoral position in Tromsø that was exactly fitting my profile and research interests; as if it were written for me. I had to follow my destiny."

Now she has a small family and a 5-month-old baby. The nights are not what they used to be! But she has a supportive partner.

"He knows what to do and he was involved from the very beginning. And now I am back at work two days a week. It feels fine."

#### **Can't stop now**

Her goal is to obtain a full professorship within the next two years. And she realizes how exciting the hours in the lab can be, solving the puzzles of nature that nobody has solved before!

"I can't stop now. I have jumped into the river. I am taking on new roles; as a group leader, supervisor and mentor. I am applying for a research school in micro-nano technology, organising a summer school, and much more. And of course, I plan to grow, slowly and steadily, my research and activities in my field of nanophotonics in Tromsø."

#### **I don't know**

And she has a lot to share with her mentees!

"There are a lot of things I tell them. I learned to climb the academic career ladder the hard way. Using my experience, I hope to make each of the steps easier for my mentees. For example, that those mentors and professors they meet don't know everything. I was very happy when I came to Norway and heard people say "I don't know" – without any feeling of guilt in their voice. My students should not be afraid of not being perfect and having the answers all the time or communicating with "big shots" in their fields."

Jana had big expectations when she began her studies.

"I wanted to save the world when I started, but after a while, you realize that the work of one academic is a very tiny, small contribution to the research that is going on every day. In the end, it is teamwork that saves the world."





## Laura Giarre (61)

Professor

University of Modena and Reggio Emilia, Italy

Adjunct Professor, Department of ICT and Natural Sciences and Department of Computer Science, NTNU

### The poetic professor

Surrounded by working females; teachers and professors all her life, it was never a question of if Laura was going to the university. But she was not going to become a teacher. "And here I am", she laughs.

Laura grew up in Florence in a big family, and all the women were educated going back generations.

"My grandmother was a professor, and my mother was a science teacher at a school in Florence where I grew up and still live. My sister is a medical doctor. I did not want to become a professor and teacher.

I wanted to go in my father's footsteps, who was an engineer. My mother was very proud of me for doing that because it was hard work to get a place for a girl at that time. I wanted to be a tough girl!"

### The path of life

In fact, she was thinking of becoming a project manager. But then life takes turns that differ from your dreams. She completed a Ph.D. in system and control engineering and in the end, it just so happened that she became a professor as well!

"And then you had in a way chosen your path in life. But academia is hard; it is competition with others for the positions, and we had to move around to get the jobs that pushed us in the right direction. When I was a student there were few female professors at university, but in my family there were a lot of female role models.

Laura discovered that she enjoys teaching. "It was predicted for me. I like the students, to teach them and follow up. The relationship with young people is so valuable. They are so passionate and on the move. I tell them: If you fulfil your passion in life, you are happy, and if you are happy your work better."

### Florentine by heart

Today she is a full professor at the University of Modena and Reggio Emilia – Faculty of Engineering, where she teaches control systems and network controller systems and is a respected researcher and professor.

She commutes from Florence every day where her husband lives. "He is my fixed point in life. Just as my parents were when they were around us. When I need some stability, I go to Florence". She has a busy life; moving and working around in the world, teaching, and doing research.

### Giving back

*Why did you want to become a mentor for the IDUN project?*

"My own experiences made me say yes to this. When I took my Ph.D. I had some difficulties, and I was forced to solve them myself. As a mentor I can help my mentees to not feel the same in trying to help the younger generation facing these problems and solving them. I have achieved a lot of things and now I want to give back and try to help them. I very much enjoy being a mentor in this project. I try to encourage female and gender issues in my field.



### The meaning of life

Laura has done a lot of research in the field of modelling and identification of systems and the like to find out what is behind a system.

“What I really like is when you try to model a system to understand the laws behind it in a mathematical way – and try to identify a model from that data. I like to identify things; why do we have this, what is the reason – I like to know these things. It is in a way the meaning of life.

*Were you like this when you were a little girl too?*

“I don’t know exactly, but I remember when I was 3 years old, I went to the doctor. And as comfort, because it hurt, my parents asked me what I wanted for a gift. I said a TRUCK!! I got one and remember playing a lot with it in the sand. So, I think at this time I already had a feeling of what to become. In retrospect, I think I’ve always been an engineer. I loved Lego, cars, trains etc.”

### The poetic professor

Work is important to Laura, but she has some other sides as well. She loves to bike and swim, and she has a small kayak she uses. And she has a poetic side, which she did not know of until one day in 2006. That was a big surprise.

“Once, in 2006, I started writing poetry and I couldn’t stop. I wrote one novel after the other. I surprised myself when I started to write poetry. I didn’t know that I had this passion inside me. There were these words that wanted to come out. I did not know I even had these words inside”. By the time she stopped, she had published five novels and three poetry-books on her own.

“I really enjoyed it and sometimes these poetic aspects of me also come out when I write papers and I need to stop it, because scientifically it has to be very logical, very structured. This is completely different. It is about emotions and feelings. I did not think I could write something about myself and feelings.”

### The gender complexes

Laura Giarré has worked in Sicily and had two sabbatical years in California. She finds the view on women and treatment of females in academia is the same everywhere. She remembers going to conferences with only male members in the committees and male speakers. So, when she was asked to chair a conference not long ago, it was with only women in the all the committees. (Not including the speakers).

“We had some problems, because the board did not want it. In the end it all turned out fine for us with a mix of women and men. But it seems that when there are all men, there is not a problem, but if there are all women or even more women than men, there are problems. I don’t not why.”

### Going in the wrong direction

*What should we do to make a change?*

“That is hard to know! Clearly the society itself need to give help – if everything is on women’s shoulders nothing happens”, she says and points out that society needs to organise more kindergartens, maternal leave for more than two weeks and such things.

“But this is not enough. It helps but doesn’t fix the problem. Secondly, role models are important to women in this field. And I don’t think that this can be solved by law. It helps a little – but if all the directors and CEOs are men, it won’t help much. We need to work on attitudes and respect. In many cultures, women are to respect men and positions and agree – also within academia. Looking at academia from a feminist perspective, we are not going in the right direction worldwide. Therefore, I am happy we have IDUN which is promoting women in academia. The problems are not solved by themselves – we need to give them help. Men don’t think about it – but if we never see females, we are never going to have role models”.





## Martha Larson (54)

Professor of Multimedia Information Technology  
Institute for Computing and Information Sciences, Faculty of Science  
Centre for Language Studies, Faculty of Arts, Radboud University, Netherlands  
Adjunct Professor, Department of Computer Science, NTNU

### Preparing for something that has not yet been invented

An encounter with Carl Sagan and a female professor in the '80s sealed her destiny in academia.

Professor Martha Larson (54) from the Midwest, USA, has since she was a little girl presumed that every woman could be a professor.

"In my childhood, I did not think of that woman could not be professors or anything else – I was in an environment where women could be whatever they wanted to do. In the university where my mother was a counselor there was this one professor who always said hello when I visited my mom. And just by seeing HER, I took for granted that every woman could be a professor. I did not question her as a professor. And she was not even a role model to me."

As a little girl, Martha was strongly influenced by Carl Sagan and the television series "Cosmos: A personal Voyage in 1980". It is considered a milestone for scientific documentaries."

She remembers well the episode in which Sagan explains what a Tesseract is.

"I actually looked it up, she says. (And type this link in the chat.) It was supercool. I got the feeling of that there is so much out there that I don't know, and opportunities for discovery. Carl Sagan was so amazing; he explained it and the communication side of things was interesting. I was also interested in extra-terres-

trial life and what would it mean to communicate with Extra Terrestrials.

### Not yet invented

She was interested in these things at an early age and never saw a disconnect between her interests in both math and language. It was all there in the Cosmos.

"In the '80s we did not have WWW, or digital cameras, no mobiles. The things I am working with now were not invented then. And that is one thing I prepare my students for. They may be studying and preparing for something that has not yet been invented."

### A translator

Throughout her career, Martha Larson has been in a position as a translator between disciplines by working with speech and language technology and with communication science as well, doing research and teaching for both the joint data science group and Centre for language studies at Radboud University in Nijmegen.

"And that is what I do now as well. I try to keep up the work we do in data simulations and connect them to linguistics." In these Covid-times, they are trying to understand the spread of dis- and misinformation about vaccinations. And this has to do with how the algorithms work, how the systems that support the spread and exchange of information of online work.

The algorithms can also help us a lot, and this is still something we must do more research on to determine the best practices and how to move forward.



### Amazing hub

For the last 10 years, Martha Larson has been living in the Netherlands and working at Delft University of Technology and since 2016, at Radboud University in Nijmegen.

"It is an amazing hub if you are working on Artificial Intelligence (AI). It is densely populated, and so are the universities. And when both my husband and I got work at two different universities as researchers, it was an obvious choice for us to go. And we can live together!

It is really what the Dutch are doing in AI that is interesting. They are trying to set the European course in AI – rather than following along what's happening in China and the U.S.. So, this is the interesting place to be right now."

### Something's going on

For Martha, the '80s also meant that girls could do anything. "I did not have to think about it – I did not worry about it. But when I one day looked around, I thought that "no" – it did not happen after all. She says that the resignation of two women from the Google

Ethics Branch in August 21 made her realise that she can never work for Google. "This is something I haven't thought of earlier. I don't see a trend now, but there's something going on."

### Enthusiastic yes

When NTNU and Letizia asked her to join the IDUN project she said yes immediately.

"I owe NTNU deep", she says and explains: When she was going to do her Ph.D. in language, she was unsure of what path to pursue. "Then, I received a sponsorship from a project called **The Legon Trondheim Linguistics project**. They basically adopted me and some of the professors showed a lot of interest in my work. These people picked me up and pulled me together and pushed me in the right direction. I still remember the moment when I was asked if I would join the project at IDUN. Of course, said yes – I owe you deep." She laughs and concludes that she will do her best.

"I can help them to get an overview of the project – where is the ship going. We can set up the to do list and say: Where is this going. What to do! Just bring it on – I have experienced it all!"



## Nirmalie Wiratunga (50)

Professor & Lead of the Artificial Intelligence & Reasoning Research Group  
School of Computing, Robert Gordon University, Aberdeen, Scotland  
Adjunct Professor, Department of Computer Science, NTNU

### A curious mind

As a young girl, going to a private Roman Catholic School administered by the Sisters of the Good Shepherd Congregation, Nirmalie Wiratunga found her often non-confirmative mischievous ways would put her on the wrong side of her teachers.

"I was often getting into trouble due to my somewhat rebellious nature. I probably always have been a person who likes to investigate things as well. And would often question rules and it happened quite a few times that I got detention as punishment for breaking these rules," she says and laughs thinking about it.

In the convent, the girls wore school uniforms which meant you were limited in terms of physical self-expression; but importantly the Sisters always encouraged creative expression through choral singing, playing musical instruments and extra-curricular activities.

### More music than maths

Nirmalie grew fond of music. "It is fair to say in my younger years, I, too, was mostly interested in classical piano, and singing. The only time my mother would get upset with me was when I missed my music lessons. So, she was the one that encouraged me and pushed me into music. She did not care so much about the maths and engineering stuff.

At home, Nirmalie had a very laid-back upbringing with her mother, as her father was working abroad during her childhood. "All my friends liked her, and our house was the place to be and have fun. She was quite flexible, and we are like best friends."

### Learning by doing

The interests in computer science started in the early '80s in Sri Lanka. Her father, an engineer, happened to buy Nirmalie a ZX Spectrum which was amongst the first home computers you could purchase in the '80s. This was a rarity in Sri Lanka where not many knew about home computers, never mind had access to one. She remembers it came with some textbooks about basic programming. A completely new world opened. She discovered the possibilities to upload games to the computer to play. But it was the programming itself that fascinated her most.

"I learnt how to make programs by myself and how to get the computer to execute code. And that was far more interesting than just playing built-in games. So basically, I sat on my own and learnt how to program."


### Curious mind

After school, Nirmalie took a bachelor's degree in computing and worked as a software engineer in Colombo, but found work was a bit too repetitive for her curious mind.

"Research allows you to explore something new all the time. Sometimes we must first discover the problems and are not only finding solutions to the problems. That is something I like."

She came to Aberdeen, in Scotland to study for a master's degree, and during her postgraduate studies, she was fortunate to have a mentor, a female professor, who encouraged her and pushed her limits.

"At the time I hadn't thought of an academic career until I met her. I studied and did well in my undergrad



degree but hadn't realized that there was further potential to pursue an academic career. I guess I was not fixed on what to do next and was open to ideas. So, when she asked me if I would be interested in a Ph.D. position she had, it was easy for me to say yes. So, in a way, it felt like the next natural step to take."

### **Pushing limits**

After finishing the Ph.D., Nirmalie worked at a university, until she received an email from her former mentor who said she had a research fellowship and asked if Nirmalie would take it.

"I would say she was both a role model and a mentor to me. She encouraged me and made it easy for me to say yes to that, too. And I guess now I have taken forward some good practices from her such as being available and helping to see the big picture when I am mentoring my students that are in their early stages of a research career."

Thanks to this mentor, Nirmalie went all the way. Today she is professor of Intelligent Systems at the Robert Gordon University in Aberdeen. She is also part of the School of Computing's management team and the strategic lead for research on Artificial Intelligence. Currently, she oversees procedures and introduces policies to help integration and collaboration for early stage and early career researchers within her school.

### **Strengthening the gender balance**

Becoming involved in the IDUN project was natural for her. "I think the IDUN aim of PhD to professor with emphasis on female role models and mentoring is a fantastic idea to strengthen the gender balance. It makes sense and to me it's a great strategy that can be used by many other institutions."

Nirmalie Wiratunga says that if we want to address this imbalance, we must put more effort and resources towards helping women in science. "If we continue with equal effort, we will only just maintain the existing gap and never address the imbalance."

In the IDUN project Nirmalie has four mentees – all female. They have jointly set some targets and goals to help them become more visible in their research contributions. She likes it when they tell her that they have developed more confidence.

### **Becoming confident**

"I was not very confident when I was younger. So how did I become confident? Sometimes it helps who you are with, and with age and experience you become more confident. My experience is that once you start thinking beyond you - it takes away the fear, helps to overcome fear and become less self-conscious. If your intentions are to help through research contributions, and you are aware of this ... that helps, too. "

Nirmalie never thought she would be a doctor or professor one day. Or be part of strategic management teams.

"So, yes, I am proud to have made it this far! But I still have a lot of work to do".

But even professors need to relax sometimes, and for Nirmalie Wiratunga, she finds that in the mountains. To get away from research, planning and mentoring, she enjoys the outdoors, hiking in the Scottish hills and Munro bagging – which is a popular pastime in Scotland involving climbing mountains over 914.4 m (3,000 ft). This gives her a moment of meditation and peace and helps her remain physically active.





## Sibylle Schroll

Professor of Mathematics  
University of Cologne, Germany  
Adjunct Professor, Department of Mathematical Sciences, NTNU

### Passion for life

For Sibylle Schroll, everything fell in place when she stumbled upon pure mathematics. Now thinking of mathematics even feels like meditation. “You don’t have room to think about anything else – it is wholesome.”

Mathematics was not on her agenda when growing up in a small town close to Stuttgart, Germany. She enjoyed solving puzzles as little girl, but mostly she rambled around in the streets, playing with friends. She enjoyed music and languages, too, and studied both. At one point she wanted to become a doctor, but after job shadowing some doctors, she found out that the actual job was very different from what she thought it would be.

“So, I started with math by default,” she says.

### Passion for life

She moved to Paris after finishing secondary school and completed her undergraduate studies there. She stumbled upon pure mathematics by accident. “I liked it and happened to be really good at it.

Pure mathematics is a very abstract subject that does not claim to have any immediate application, but it is a very foundational area in research, often underpinning new developments in other areas of science such as physics and chemistry.

When doing research in pure mathematics, in a way, we set our own problems. Or we follow open problems either posed by someone in the area or guided by open problems in other areas of science such as, for example, string theory in physics. It is rare that

our work is motivated by concrete real-life problems. Although recently, two exciting new developments in that directions have taken place in our area with the development of topological data analysis and recent work connecting representation theory of quivers with neural networks and machine learning and AI.”

### The game changer


She left Paris after finishing her Ph.D. and moved to Oxford in the UK. For the first time, she worked with a female professor, who made her discover that it is possible to solve math-problems together – instead of competing against one another.

“That was a game changer for me. This professor also assembled around her a rather large group of people, and she basically worked with everybody that was there. I liked very much how she worked, and if I am to choose a role model, she is the one”.

From Oxford, Sibylle Schroll moved to Leicester and started work as a research fellow at the university, where she became a permanent member of the staff and finally a professor of mathematics.

In the last few years, she has been building her own research group with funding from a five-year research fellowship, with more than one million pounds that allowed her to grow a large research group.

“And I did it like my role model from Oxford” she says. “I gather a lot of young people with whom I enjoy working. I am excited that every day is different and that I constantly learn new things and am challenged by having to engage in new things. Sometimes it is almost like being thrown back to the student days by all this:



the feeling of insecurity, when you learn new things, and the elation of the 'aha moment' when you finally see how things work. I think that both are interesting points in mathematics.

### **Fighting over maths**

Sibylle has two girls and a husband, who, fortunately, is a mathematician, too.

"Having another academic in the household, and a mathematician, is good. He understands me and knows that when I am drifting away it is nothing to do with him or the family – it's just the math. But we seldom discuss maths at home, in the end we only 'fight' over the problems we discuss. It happens with many math couples, I think".

In January 2021, Sibylle Schroll became a professor at the University of Cologne, Germany. And at the same time, she is organising a semester programme in Cambridge.

### **Yes to IDUN**

She was then asked to join the IDUN programme as mentor. Of course, she said yes.

"One of the reasons that I said yes is that the algebra group at NTNU had Idun Reiten as a professor. This is the professor after whom the project is named, and I am a big fan of hers."

"The whole group at NTNU played an important role in the mathematics that I work on. And after Idun Reiten left I was quite distressed by that there were no female professors and few female Ph.D. students in the group. And when project IDUN came along I felt that I might be able to make a difference. I also thought of my Oxford experience with my female professor that was a game changer for me. I want to make it a bit easier for the ones that are coming after."

Sibylle thinks that more women in academia is important because it does something with the culture.

"It becomes more open, more inclusive, and less of an insider club. Even for mathematics, the inclusiveness that comes with more women makes things move. It's a good thing. And I think that the younger generations are putting equality up in front".





## Toktam Mahmoodi (41)

Professor of Communications Engineering  
Director of the Centre for Telecommunications Research  
King's College London, UK  
Adjunct Professor, Department of Information Security and Communication Technology,  
NTNU

### Connecting people

As a girl, Toktam Mahmoodi wanted to build an airplane and fly. She asked her parents to take her to the little education centre in her city to gaze at the stars through the telescopes. Becoming a professor was not part of her dreams.

Well, things can change as life happens. Today, she is a Professor of Communications Engineering and is doing research in telecommunications. Her core expertise is wireless networks, which is all about connecting people and making interactions borderless. This is something she is passionate about.

### The corner stone

"Since I was a child, telecom has evolved significantly, from a much simpler telephony system to what we have today. Connecting people and places is the corner stone of what I do, which I really enjoy, given all the opportunities connectivity provide us. During the Covid pandemic, we particularly experienced how important global connectivity was. In a way, the pandemic helped us to come much further, in a short time, in terms of acceptability of remote work and utilising interconnections in various sectors of the industry and society."

### Skywalker

Toktam is originally from Iran and has lived in London for the past 15 years. As many others, she came to study and did her Ph.D. in telecom in London and stayed.

"London offers such a diverse environment, which I quite like. I truly believe in diversity, since it creates diverse opportunities".

She had a very supportive family when growing up. She was good at physics as a young girl and enjoyed astronomy. "I loved the stars and the sky, basically."

When she reached secondary school, she felt that engineering was a natural choice for her to make, rather than astronomy. She enjoyed building things.

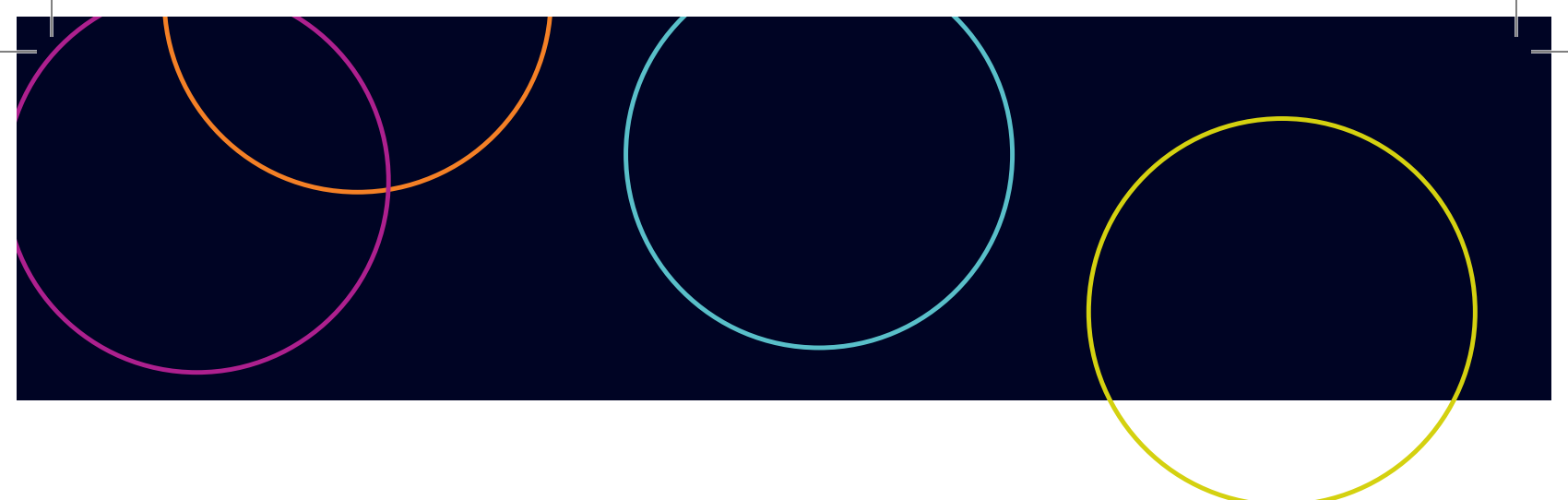
"It was fascinating building complex devices with engineering skills, and I thought that this may help me to build a spaceship or something, ha, ha." Her smile is like shining pearls, sparkling. "Anyway, you can go to space in many ways soon now. So, who knows – maybe I will do it one day after all?"

Considering that one of her biggest passions beside her work is rock climbing, she is in some ways soaring already.

### Expectations and support

After secondary school, choosing not to study was not an option for her.

"I remember when I decided to work a couple of years after my bachelor, my father was against it. He said you could work all your life, but not study all life. So, he wanted me to continue with my education. My parents were definitely very supportive when it came to education."



Throughout her years as a student and researcher, she has met many supportive people.

"I have learnt different things from different people, for which I feel privileged. I have had a lot of brilliant mentors all the way – in school, at the university and when I was working, as well."

#### **A win-win situation**

And when Project IDUN came along she said yes to becoming a mentor.

"The mentoring helped me to identify my own strengths and weaknesses. By sharing my experiences, I can help others making right choices, pursue their dreams or open their horizons to new ways of thinking or new careers. I think human experiences are the best asset one has, hence having a strong network matters. I can strengthen my mentees networks through my own", she says. "It is a win-win situation, in many ways."

#### **The career shift and diversity in academia**

Over the years, the work situation and expectations have changed, and the 'fun' aspect has shifted, too.

"I guess 10 years ago, I found it more interesting to only focus on my own research, but now it is more exciting to see how others who work with me develop. It melts my heart when I see progress and growth of my

students and team members, and I really enjoy working with them. The other thing I have enjoyed in recent years is taking different leadership roles and finding ways to have a wider impact in the work environments. I think diversity in any shape is important in any sector, and academia is no exception. A diverse environment attracts more diverse individuals and can increase its diversity."

#### **A professor? No!**

Looking back on the things you have done, is there anything you have surprised yourself in doing?

"Yes, becoming an academic. If I go back 10 years and somebody asked me if I would consider being a university professor, I would say NO WAY!"

A wave of laughter flows through the loud-speakers again.

"My image of a professor was an anti-social person sitting behind their desk with their head in a book or a computer screen. As for this stereotypical image, I am totally the opposite, and really enjoy interaction with other people. So, every time I think about 'oh, I am a professor', I laugh, because it takes me by surprise. This is not what I saw coming."

But it did!



## Mara Gabriela Diaconu

Coordinator IDUN – from PhD to Professor



## Swetlana Fast

Former Coordinator IDUN – from PhD to Professor  
Administrative Coordinator SFU Exited

# IDUN's bridge-builders – making things work

**Coordinating a project like IDUN requires many hands and minds. Two central figures so far have been and are Swetlana Fast and Mara Diaconu, who support, plan, consolidate and facilitate.**

The coordinator role is essential for keeping wheels turning in the day-to-day, as well as for making sure everyone feels included and benefits from the program. This is true for any project regardless of their objectives, but even more when coordinating a mentorship programme.

Even so, both Fast and Diaconu – who are experienced coordinators and project managers – find that IDUN is special.

“This is perhaps one of the most important projects, because we are still so far from having achieved equality in academia,” they say. “And the special thing about IDUN is that achieving equality is not a burden that women should carry alone. We are looking just as much to men, to university processes and the system to share the responsibility.”

### Cumbersome structures

Leadership and top research in academia remain a very masculine field, and the universities are struggling to bring more female candidates into it. Meanwhile, many women pursue higher education and doctorates, but few take the next step on from there.

“That’s why we need IDUN,” they both agree – women must be supported from the early stage and have role models. For this reason, the IDUN project truly is ‘one of a kind’.

### The enabler

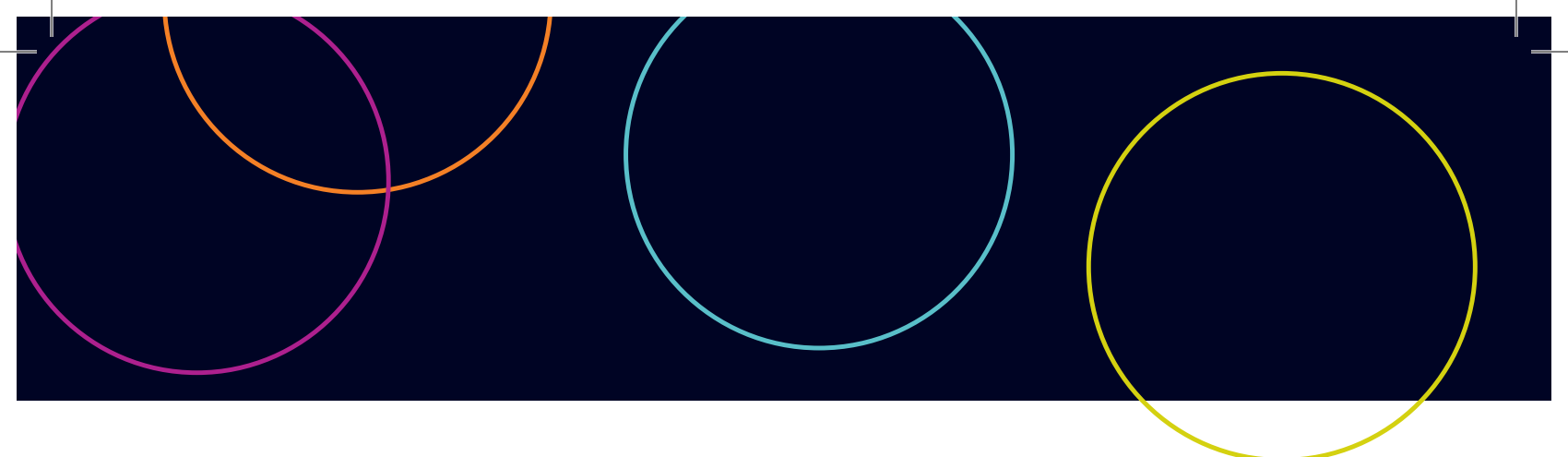
For Swetlana Fast, who worked on the project from its inception to year two, this has been an inspiring learning process, where she worked closely with researchers, HR, Heads of the seven departments at the faculty and faculty’s leadership.

Together with the Project Leader Professor Letizia Jaccheri, Fast’s role was to hire the nine female professors, to design the IDUN Scientific Mentoring Program and to cultivate a welcoming, trustful atmosphere with well-functioning groups. In this initial phase, they were preparing the ground for the researchers to become the agents of the change they wanted to see.

“I consider myself an enabler – someone who creates the framework and the environment for the mentees and the mentors to work smoothly together. It is particularly rewarding to see young academics grow, gain confidence and unfold their potential. Especially PhD students need encouragement and help with network building, they often feel alone, isolated in their own academic bubble, even more so during the pandemic.”

### Social benefit

Mara Diaconu took up the baton as coordinator in late 2021. She has worked on large research and innovation projects on behalf of government, universities and industry in her native Romania and elsewhere in Europe before coming to Norway and accepting a job at NTNU 4 years ago. When she heard about IDUN it just came as a perfect fit for her to promote gender balance in research and leadership, meanwhile inspiring and supporting researchers, innovators, and entrepreneurs to bring their ideas to market.



“It is exciting to contribute to the development towards a sustainable society through these types of projects,” she says.

### **Tailored programme**

In order to tailor the programme to the participants' needs, several surveys were carried out. Responses revealed that especially PhD students and postdocs need mentors, networks, advice on how to write articles and how to choose the best journals or conference for their publications among other things. All these components have been included in the programme, in addition to a section on how to organize international conferences and seminars and using these events to build and expand networks. The uniqueness of the IDUN mentoring program is its focus on the science.

### **Both women and men**

For the coordinators, it is important to make the mentor programme as accessible as possible, to ensure that participants benefit from it at both an academic and a personal level. While the programme is about women – it is just as important to involve male colleagues as well. So, both women and men are mentees, but all mentors are female academics.

“We wanted the inclusiveness in our project, and we have invited both female and male to be mentees”, Diaconu says.

### **Changing the culture**

Since the beginning, IDUN – from PhD to professor – aimed to have a gender distribution between women and men of at least 50 % females among mentees. From 49 participants in the Scientific Mentoring Program, 80 % are female. To offer the variety of role models, 10 female mentors were invited to lead nine research groups from all three campuses and all seven faculty departments.

IDUN's vision is to empower the researchers to shape the culture of diversity and equality in which they thrive and generate better research results and education practices. Both coordinators hope that the ex-

perience of working in gender balanced, international IDUN groups will be the seed they have planted and that it will inspire these young people to create such a culture wherever they will work in the future.

Mentees and mentors come from all over the world – and mentors are based in universities in Europe. Their takeaway from this period will be important – and they will bring out the best in each other by challenging each other. Men and women do not lead or research the same way.

“We hope our researchers recognize that this is clearly an advantage, and that we complement each other,” says Fast.

“We believe it is both important and right to include men, because if we are changing something, we need to include everyone. Research has shown that in order to achieve change, at least 30 percent of the minority group must be included, or they will not have the courage to speak up and be heard,” Diaconu supplies.

### **Looking into the future**

*Has IDUN changed anything in the ways participants, our national society or the international society think and act, do you think?*

“We do find that awareness of gender balance has been raised at faculty and university level,” Fast says. “However, to implement any cultural change, it is important to involve management, administration and scientific staff at all levels. With IDUN, the Ada project and the working group for gender balance and equality, the faculty is doing an exceptionally good job. It is important to share their experiences and findings with other faculties and universities and at the same time translate the findings and strategic directions into daily routines, practices and attitudes.”

“We know these things take time; we are not just making a change at a personal or intellectual level, but also at a cultural and, not least, systemic level in the hope for sustainable changes in academia that will continue beyond IDUN project”, Mara Diaconu concludes.







## Goal

Sustainable improvement of gender balance in top-level research positions from PhD to professor at the Faculty of Information Technology and Electrical Engineering, NTNU by offering a Scientific Mentoring Programme and an Innovative networking arena



# IDUN – from PhD to professor

Gender balance in top research positions

## Why?

**581**

in all research positions  
20 % female

**125**

professors  
13,8 % female  
(2018)

**149 professors**  
**16,5 % female (2022)**

## What is unique in IDUN

- Bottom-up approach – mentees have expressed their needs and proposed the mentors
- Targeting females, but including males
- Build confidence and a common space – share challenges, needs, desires
- Early stage career researchers with a mix of senior ones: PhDs, postdoc, assistant professors
- Empower the scientists to make the change

August 2019– July 2022

**9.8 MNOK**



## GET INSPIRED! GET INVOLVED!

- Nine female Adjunct Professors from nine different countries recruited to act as role models and mentors
- IDUN's Scientific Mentoring Program started in August 2020 – focus on research excellence and networking
- Nine research groups with 39 participants, both female and male, from PhD to Associated Professor level
- Inspire to pursue academic careers
- Inspire for international research in diverse teams
- Understand and limit dropout
- Build networks, connect, growth

Small changes  
bring big changes!

### Contact

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