

Danica's robots & the future

WHEELCHAIR
TENNIS OFFERS
PATH BACK TO AN
ACTIVE LIFE

MODERN HEARING
AIDS DELIVER
COMFORT AND
CONFIDENCE

GROUNDBREAKING
RESEARCH INTO
PARKINSON'S
DISEASE

Robots like the Unitree G1 could eventually become excellent home assistants for people with limited mobility, says Professor Danica Kragic, whose research is supported by Promobilia.

"We promote
research, innovation
and ***independence***
for everyone, regardless
of ability."

This annual report
was produced in 2026
and summarises the
activities of 2025.

6



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This is the Promobilia Foundation

The Promobilia Foundation supports the development and accessibility of innovative solutions that enable people with disabilities to live independent and active lives.

By funding high-quality research in disability and assistive technology, Promobilia contributes to the development of solutions that make a meaningful difference in people's lives.

Promobilia also provides a forum where researchers, users, advocacy organisations and other research funders can come together, collaborate and drive progress in the field.



Per Uddén – the visionary

The story of the Promobilia Foundation begins with physician and innovator Per Uddén (1925–2002). His work brought him into contact with people reliant on wheelchairs who lacked the opportunity to live independent and active lives. Per therefore took it upon himself to create a powered wheelchair capable of overcoming the challenges of navigating both urban and natural environments.

Working on a small scale, with a dedicated team in Kälarne in the county of Jämtland, the first Permobil chair took shape – an innovation that would go on to

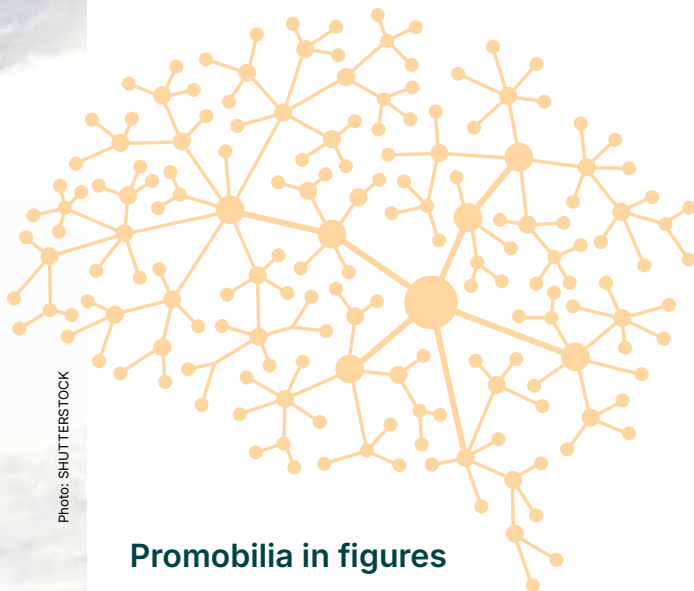


Photo: SHUTTERSTOCK

Promobilia in figures

SEK 73,000,000

The total amount distributed by Promobilia in project funding, fellowships, strategic initiatives and grants in 2025.

91

The number of applications granted support from Promobilia in 2025.

SEK 460,000,000

The total amount of funding distributed by Promobilia in the period 2006–2025.

21

The number of active fellowships funded with support from Promobilia in 2025.

1965

The year the Foundation was established.

behind Promobilia

change the lives of people all over the world. To fund its development, Per Uddén set up the Foundation for Technical Support for the Handicapped, known today as the Promobilia Foundation.

Permobil's commercial success has contributed to the strong finances of the Promobilia Foundation, enabling it to provide long-term support for research, innovation and greater independence for people with disabilities.

To this day, Per Uddén's vision lives on through the work of the Promobilia Foundation.

Tip:

Watch the short film about Per Uddén:



We want research to make a real difference

As a foundation, we take a long-term view, but by nature we are also impatient. We want to see ideas become reality and research turned into solutions that make a real difference in people's lives. Our goal is clear: to support everyone's right to lead an independent and active life, regardless of ability.

2025 has been a remarkable year for the Foundation. We have seen more and larger projects than ever before and, most importantly, genuine change. It is inspiring to see how research, innovation and new ideas are being developed into real progress.

In this annual report, we share just some of the initiatives and projects that the Foundation has supported over the year. We feel it is important to work quickly and closely with those we support, without getting bogged down in what the Foundation's founder Per Uddén called "the treacle of bureaucracy". His belief that new ideas, technology and innovation can deliver greater independence and participation still shapes our work today.



Photo: JENNY WIDÉN

Patrik Malmunger

CEO, Promobilia Foundation
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When your hearing deteriorates, the world shrinks and the risk of isolation and loss of freedom grows. Researcher Sabine Reinfeldt wants to change that. Her smart hearing aids that conduct sound through the skull bone are helping more people to hear.

Text: Karin Cedronius // Photo: Lisa Thanner

Hearing

— *vital for personal freedom and confidence*

“THE BEST MOMENT for me is when patients who have had poor hearing for a while switch on their hearing aids for the first time and ask: ‘Oh, what’s that sound I can hear?’ In that instant, I know exactly why I pursue this work.”

Sabine Reinfeldt is a senior lecturer and researcher at Chalmers University of Technology. Together with her colleagues, she has developed a special type of hearing aid that conducts sound via vibrations through the skull bone directly into the inner ear. These bone conduction implants are mainly suited to people with hearing loss in the middle or outer ear.

“Hearing is about so much more than simply catching the sounds around you. When your hearing fails, you’re more likely to feel isolated, limited and insecure. Research shows that poor hearing can be linked to poor mental health and may also be connected to dementia. Getting the right hearing aid is therefore essential,” says Sabine Reinfeldt.

Many of those who get a bone conduction implant have struggled for a long time without getting the right help. Either they have been using conventional hearing aids that amplify sound through the air, or they have simply carried on with no device at all.

“We had one 65-year-old patient whose hearing had gradually worsened over the years but who had never received proper help. When she received a bone conduction implant, it was as if a whole new world opened up. Suddenly she could hear the birds again, and she could walk along the country lane she loved without fear of not noticing a car coming up behind her.”

The technology of conducting sound through

the skull bone has existed for nearly 50 years, but considerable advances have been made since it first appeared. Unlike a conventional hearing aid, which sits behind the ear and channels sound through a tube into the outer ear, bone conduction implants conduct sound via a vibrator attached directly to the skull bone beneath the skin. An external sound processing unit sends signals to the vibrator.

The older versions have a small attachment that passes through the skin, whereas the newer designs keep the skin intact, as the processor attaches magnetically to the implant beneath the skin.

“The advantage of the newer system is that patients avoid the potential complications from the device passing through the skin, and they don’t have to worry as much about keeping the skin around the implant clean. There’s also far less acoustic feedback,” explains Sabine.

HOWEVER, WITH HEARING LOSS varying so much from one person to the next, it is not always easy for clinicians to know which device is best for each patient. Sabine Reinfeldt and her colleagues are therefore carrying out a seven-year Promobilia-funded project to study which type of hearing aid is best suited to different patients. This randomised multicentre study involves several clinics across West Sweden. The hope is that the results will help healthcare providers to personalise treatment even further.

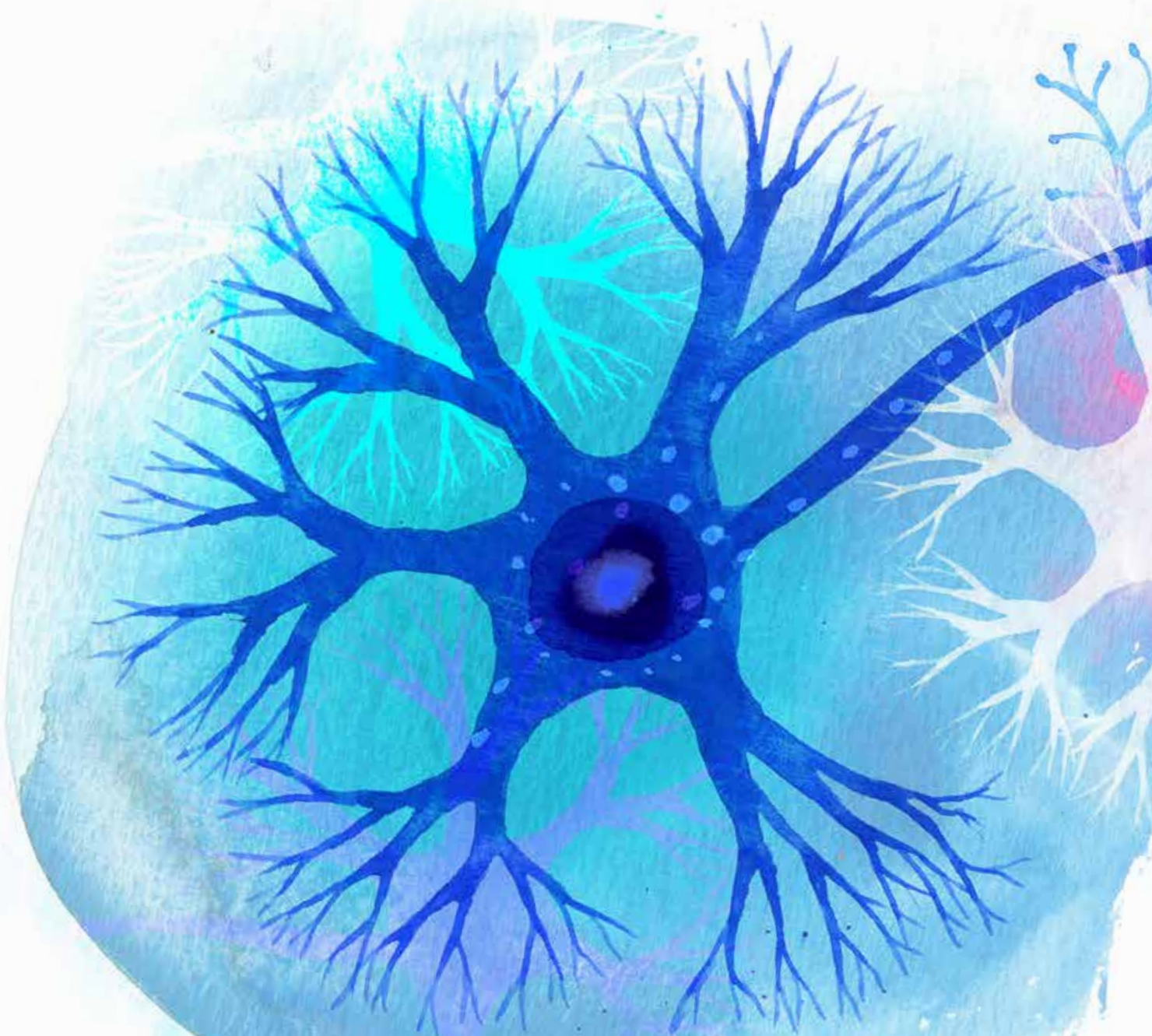
“The goal is to ensure that every patient gets the best device for them first time around, helping more people to improve their hearing. I’m so grateful that we’re able to do this with Promobilia’s financial backing,” concludes Sabine Reinfeldt.

Hearing loss can be caused by problems in the outer ear, the middle ear or the inner ear. The most common cause is simply ageing, but hearing can also be affected by infections, malformations or other damage to the ear. Bone conduction implants are used mainly when a problem in the outer or middle ear prevents sound from reaching the inner ear in the normal way. Vibrations from the hearing device are conducted directly to the inner ear, unlike with a conventional hearing aid which amplifies sound inside the ear canal.

A woman with long, wavy blonde hair, wearing a black long-sleeved top and black pants, stands in a room with a white backdrop. She is holding a large, realistic model of a human ear on a small white tray in her right hand. In the background, there are some black cables hanging from the top. In the bottom left corner, a human skull is visible on a table next to some electronic equipment.

Sabine Reinfeldt, researcher at Chalmers University of Technology, explains that hearing loss can lead to insecurity, poor mental health and an increased risk of dementia, which is why developing better hearing aids matters.

"The goal is to ensure that **every patient gets the best device for them** first time around, helping more people to improve their hearing."

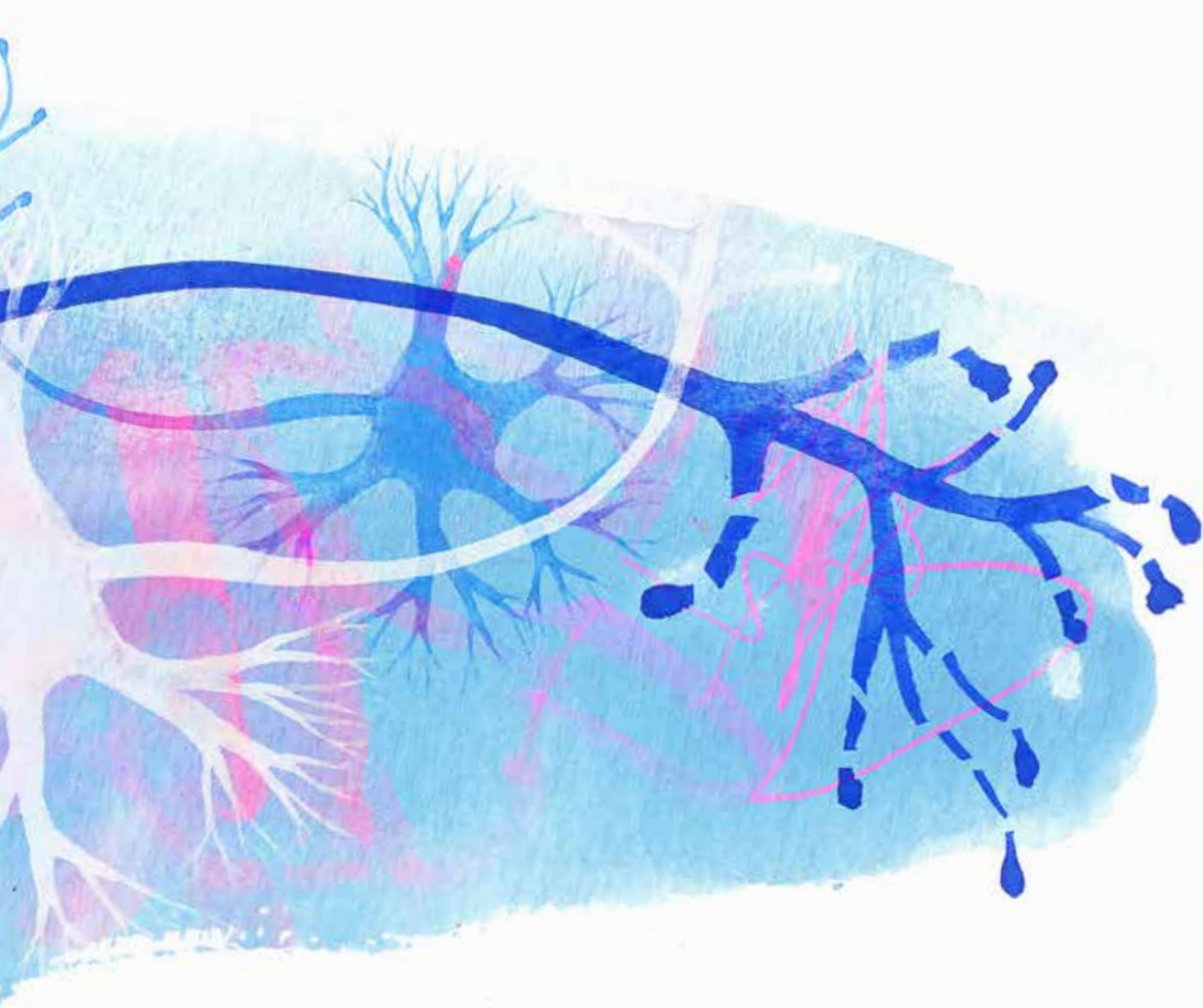


Parkinson's

How researchers are working to understand and slow the disease

Parkinson's disease is a neurological condition that can cause stiffness and tremors. In 2025, the Promobilia Foundation focused particular attention on this condition. Below, we present some of the related research projects supported by the Foundation.

Texts: Karin Cedronius // Illustrations: Ida Brogren



The Cell: Getting to the heart of the disease

TURNING BASIC RESEARCH at the cellular level into brand-new treatments. That is the goal of the research consortium working to gain a deep understanding of Parkinson's disease.

Current treatment for Parkinson's disease largely focuses on replacing the dopamine lost when nerve cells in the brain die. This works for a time, but does not stop the disease from progressing.

Professor Thomas Perlmann of Karolinska Institutet and his research colleagues are now looking in depth at why certain cells are particularly vulnerable. They hope that studying what differentiates vulnerable dopamine cells from more resilient ones will lead to new methods of tackling the disease.

"WE WANT TO UNDERSTAND why some dopamine cells break down and others survive. That knowledge could ultimately lead to new ways of treating the root cause of the disease, rather than today's approach of simply compensating for the lack of dopamine," says Thomas Perlmann.

The research initiative is being driven by four



Name:
Thomas Perlmann.
Title: Professor.
University:
Karolinska Institutet.
Funding:
SEK 25 million for a five-year strategic initiative.

teams of researchers under the leadership of Thomas Perlmann, Per Svenningsson and Karima Chergui at Karolinska Institutet, and Tomas Björklund at Lund University. Together, they have received funding from Promobilia to study the mechanisms of the disease and develop methods that could eventually slow its progression or even prevent it from developing in the first place.

"The idea is that the basic knowledge we develop here at KI can be linked to new technical tools developed by our colleagues in Lund – custom viral vectors that can act as carriers of drugs into the brain," explains Thomas.

IN TIME, this could pave the way for treatments that target the underlying mechanisms of the disease before the nerve cells have been too severely damaged.

"There's a desperate need for treatments that can block or slow the nerve cell death that is at the root of the disease. Our joint research project aims to achieve such a breakthrough by investigating several parallel approaches in close collaboration," says Thomas Perlmann.

The Eye: A key to early detection

LIKE A WINDOW directly into the brain – that is how researcher Davide Frattini describes the human eye. He is investigating whether eye movements and perception of time can help with detecting early signs of Parkinson's disease.

A major challenge with Parkinson's disease is that it has often been progressing for several years by the time a patient is diagnosed, as this is based primarily on the typical motor symptoms.

"But by the time these appear, the disease is often so well advanced that around 50–70 per cent of the brain's dopamine system has already been lost," says Davide.

In a Promobilia-funded project, he is therefore investigating whether eye movements, combined with a patient's perception of time, can provide clues that enable earlier detection of the disease.

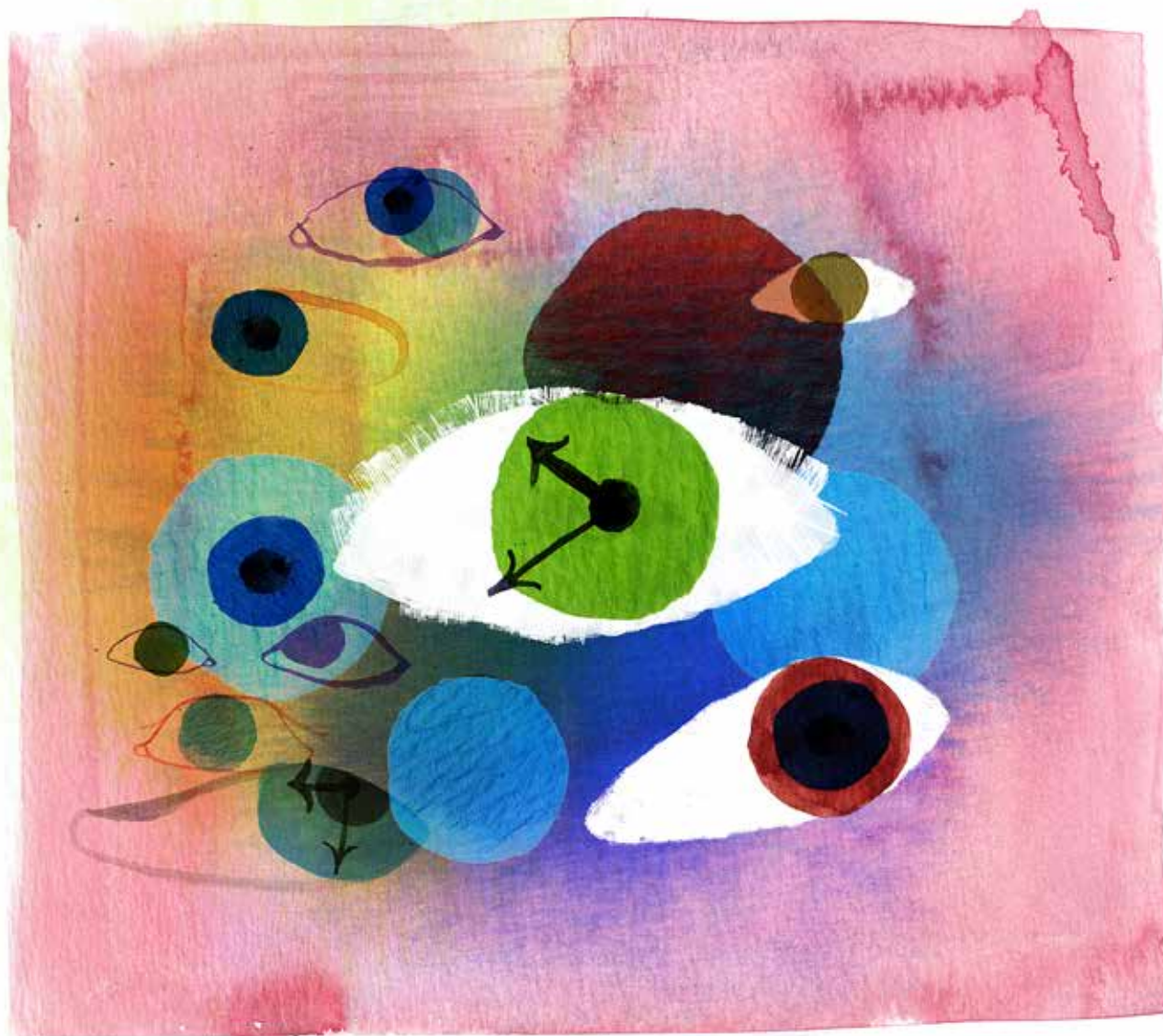


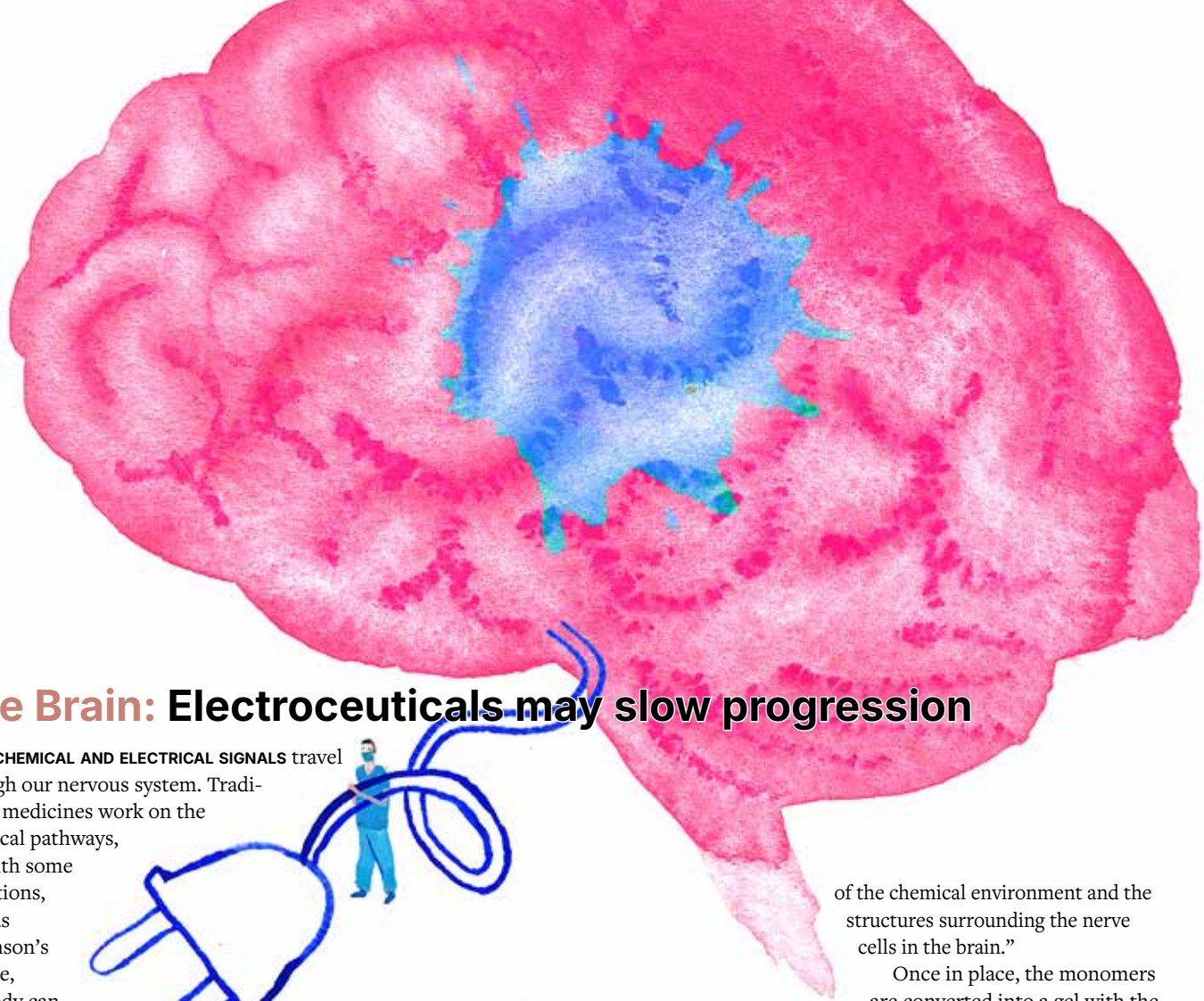
Name: Davide Frattini.
Title: Postdoctoral researcher.
University: Karolinska Institutet.
Funding: Promobilia Fellowship (postdoc).

"The same neural circuits affected by Parkinson's disease are also important for the way we control our gaze, perceive time and anticipate what is about to happen. We therefore believe eye movements and pupil responses can tell us quite a lot."

The focus is on measuring how quickly and accurately the gaze moves, how the eyes track movements, or how the pupil responds. The researchers are also looking at how patients perceive time, as disruptions in this area may reflect changes in the brain's dopamine system.

"If we can detect subtle changes before the disease becomes clinically symptomatic, it may be possible to introduce symptom-relieving treatment earlier, as well as allowing patients to try neuroprotective or disease-modifying drugs at an earlier stage."





The Brain: Electroceuticals may slow progression

BOTH CHEMICAL AND ELECTRICAL SIGNALS travel through our nervous system. Traditional medicines work on the chemical pathways, but with some conditions, such as Parkinson's disease, the body can also be treated using electroceuticals.

People with Parkinson's disease experience dopamine deficiency, due to destruction of the nerve cells that produce dopamine. This has a number of consequences, including impaired motor function and cognition, with typical symptoms including tremors and stiffness. Today, the most severely affected patients can receive a treatment called deep brain stimulation, or DBS, which involves surgically implanting an electrode deep within the brain to stimulate the area responsible for dopamine production. This complex treatment is far from risk-free, its effect is limited and it may even diminish over time.

WITH THIS IN MIND, Professor Magnus Berggren of Linköping University and three other research teams at the same university – led by Daniel Simon, Karin Wårdell and Peter Nilsson – have developed a new method that uses bioelectronics to help these patients.

“Put simply, the process involves introducing homing electronic molecules, known as monomers, into the body. They seek out the affected part of the brain and attach themselves in place with the help

of the chemical environment and the structures surrounding the nerve cells in the brain.”

Once in place, the monomers are converted into a gel with the help of natural enzymes, forming a soft electrode that conducts electricity. This can then stimulate the generation of signals in the brain and thereby alleviate the symptoms of Parkinson's disease.

“As a first step, we're looking at extending existing DBS electrodes using this plastic, to achieve greater precision and prevent them from deteriorating over time, which is a problem at the moment.”



Name: Magnus Berggren.
Title: Professor.
University: Linköping University.
Funding: SEK 30 million for a six-year strategic initiative.

THE NEXT DEVELOPMENT will not require any brain surgery at all, as a catheter will be inserted via a blood vessel in the groin to reach the central parts of the brain. From there, the released electroceuticals – the monomers – then find their way to the right place in the brain, attach themselves and start working.

“We've seen some very promising results and I have high hopes that, in the future, we'll no longer need to operate deep within patients' brains.”

MAGNUS BERGGREN AND HIS research colleagues have now received funding from Promobilia for a six-year strategic initiative.

“I'm incredibly grateful for this support, which will allow us to further hone our methodology and hopefully help many patients with Parkinson's disease to lead a better life in the future.”

With 2025 marking 100 years since the birth of Per Uddén – the doctor, innovator and creator of the Promobilia Foundation – a gala dinner was held to celebrate his pioneering work on increasing freedom of movement, as well as the continuing legacy of research and innovation that keeps his spirit alive. Here is a selection of photos from a memorable evening filled with inspiration, warmth and optimism for the future.

Photo: Sara Rossi

Centenary gala dinner *honouring Promobilia's founder*



Professor Mark A Anderson, holder of the Promobilia-funded professorship in spinal cord repair at the University of Lausanne, spoke at the gala about his groundbreaking research. By combining gene therapy and neurotechnology, his research team is working to restore function in people with spinal cord injuries. This research offers new hope and demonstrates the power of long-term investment in medical innovation.



A bust of Per Uddén, founder of the Promobilia Foundation, was displayed throughout the evening as a reminder of the Foundation's history and of the founder's vital role in its development.



Acrobats from Cirkus Cirkör worked their magic during the evening gala. With support from the Promobilia Foundation, Cirkus Cirkör also runs a project for people with Parkinson's disease.



Professor Anders Kvanta spoke about the vision of eventually being able to cure blindness caused by retinal damage.



The evening boasted a wonderful atmosphere and many engaging conversations at the tables, where guests were treated to a four-course dinner. Pictured: Erika Nilsson from the Spinalis Foundation.



The Reactor Hall at KTH provided a spectacular setting for the gala's many guests, who enjoyed an evening filled with inspiration, research and optimism for the future.



Danica Kragic won the 2025 Per Uddén Award.

Jury statement: "Danica is recognised for her outstanding contribution in the field of robotics and AI, with her research enabling the development of assistive technology that improves independence and quality of life for people with a disability. She creates technology that not only assists but enables on the user's own terms. She is also a vocal advocate for a technology that serves humanity and society."

Established in 1995 to honour the founder of the Promobilia Foundation, the Per Uddén Award is presented annually to a person who is deemed to be working in his spirit.



Katharina Stibrant Sunnerhagen was awarded the 2025 Kaj Sigstam Scholarship.

Jury statement: "Katharina is recognised for her long-standing and strong commitment to rehabilitation medicine and for her research work, which promotes improved opportunities for people with neurological disabilities. Through her research, clinical work as a consultant physician and her role as an international expert, she has played a crucial role in the development of rehabilitation methods."

The Kaj Sigstam Scholarship was established in honour of engineer Kaj Sigstam's long-standing commitment as Chairman of the Foundation. The scholarship is awarded to research that improves the lives of people with disabilities.



A future *with robots*

In the future, a robot could be just as commonplace an aid as a wheelchair, according to Danica Kragic, who is researching how robots can help and support people in their everyday lives. The aim is not to replace human contact, but to be of use where the need is greatest.

Text: Karin Cedronius // Photo: Sara Rossi



The robot, nicknamed Perlan and weighing in at 70 kilos, accompanies Danica Kragic to the lecture theatre at KTH's Department of Robotics, where she works.

Imagine having an assistant who takes care of all the heavy, tedious and maybe dangerous chores in your home. Every day, round the clock, and never once complaining or asking for a break. This could actually become a reality in the not too distant future, according to the robotics researcher Professor Danica Kragic.

Danica Kragic, Joakim Gustafsson and Noémie Jaquier are conducting research at KTH Royal Institute of Technology into humanoids, or human-like robots, and their ability to carry out tasks in people's homes.

"I envisage a future where there could potentially be a robot in everyone's home, but this could be of huge benefit to people with particular support needs," says Danica Kragic, whose research has established Sweden as an international leader in humanoid robotics.

Potential users include older people who rely on home care and people with physical or cognitive disabilities, who are unable to manage at home on their own and rely on assistance.

"In a society where fewer and fewer young people are expected to care for an ever-increasing number of older people living at home, robots offer a solution that can help balance this difficult equation," continues Danica Kragic.

It is not about replacing people, but about working together so that the robot, the care recipient and the home care workers become a single unit.

"I envisage a future where there could potentially be a robot in everyone's home, but this could be of huge benefit to people with particular support needs."

"Robots can do things that humans can't, such as lifting heavy loads or operating 24 hours a day. They will also be able to take over dangerous, tedious or dirty tasks that people would rather not have to do, thus freeing up the home care and nursing staff to spend time interacting socially with the older people, something they can't fit in at the moment."

DANICA KRAGIC'S EXPERTISE is in high demand. She is constantly on the move, travelling around the world to share the latest developments in robotics, and over the years she has been a visiting researcher at both Columbia University and Johns Hopkins University. Danica is also active in the business world, holding board positions at companies including H&M and Saab, and she is a member of the Royal Swedish Academy of Sciences. With such a packed schedule, she herself could maybe benefit from a robot to help with everyday tasks.

"Yes, it would be brilliant to have a robot to help me with all the tedious, heavy and monotonous work at home," she says with a smile.

Danica also has a personal motivation for her work. Nineteen years ago, her son Jonatan was born with a severe brain injury. He lives at home but is unable to speak, and needs help and supervision round the clock. Over the years, many carers have come and gone at the Kragic family's home, not always with entirely successful results.

"Imagine if Jonatan had his own robot that was with him round the clock, sensed his needs, made sure he didn't hurt himself, and supported us as parents when we can't be there – because we can't be there 100 per cent of the time. It would also act as a safeguard against him being taken advantage of or not receiving the right support from care workers and personal assistants."

Danica is often told that robots are scary, and people ask if it is really safe to have them in the home. But she is not the slightest bit worried.

"I'm not at all afraid of robots; but I am afraid of people," she says emphatically, explaining:

"Unfortunately, I've seen with my own eyes the way human-provided care can fall short, and the patient is the one who suffers. There are horrific examples of elderly people being abused by their care workers. Imagine if, in such situations, there had been a robot around to monitor the interaction and protect the care recipient. That would have been hugely reassuring."

A central element of her work on assistive robots is the five-year strategic initiative SAInt (Situated Agentic Intelligence), funded by the Promobilia Foundation.

"The idea behind SAInt is to study different scenarios involving robots in a home-like environment," explains Danica Kragic.

Researchers in the robotics lab will be testing how ordinary people interact with different types of



Danica Kragic's lab is developing humanoid robots that are designed not only to perform technically advanced tasks, but also to interpret human intentions and interact with the people they are assisting.



Name: Danica Kragic. **Title:** Professor.
University: KTH Royal Institute of Technology
Age: 54. **Lives in:** Stockholm.
Family: Husband, two children aged 19 and 12.
Leisure: Spending time with the family, running, sewing (likes to design and sew her own clothes when she has time).
Other info: Came to Sweden from Croatia in 1997 as a doctoral student at KTH's former Department of Numerical Analysis and Computer Science (NADA). Obtained a PhD in Computer Science in 2001. Board member of H&M and Saab, and member of the Royal Swedish Academy of Sciences.
Type of funding: SEK 35 million for a five-year strategic initiative.

The fact that Danica Kragic's teenage son has a congenital brain injury and requires round-the-clock care also gives the research a personal dimension. Danica recognises the need for close personal support and believes that, in the future, robots could help to both lighten the load and provide reassurance.

robots in everyday situations, such as cooking and washing up. They will also follow the participants for three years to understand how their relationship with the robot develops over time.

"We want to see what actually works in practice. Will the participants be scared if the robot is too tall? Can the robot be a motivational presence? The aim is to understand which type of robot is best suited to different people and their needs."

For robots to function in people's homes, they need something akin to human senses, such as sight and touch, which are achieved through cameras and sensors that detect the force of contact with objects. In the long term, they will also need softer bodies and some form of artificial skin, so they can operate safely in close contact with people.

A WORKBENCH in the lab is laid out with a milk carton, a plastic bottle and a tube of crisps alongside a 3D-printed robot hand that the researchers are using to study gripping techniques.

"Fine motor skills and grasping are the hardest things to get right with a robot. Here we're testing all sorts of things to understand how different robot bodies work," explains Danica as she proudly shows off one of the lab's latest additions – a 150 cm-tall robot weighing 70 kilos.

"This is the very latest technology. It's incredibly advanced, but it can't yet get over thresholds or up stairs on its own, so there are many obstacles still to overcome."

And it is not just the physical obstacles that need to be resolved. The robotics research spans several different disciplines and involves everything from safety and technology to ethics and psychology.

"If we want people to interact with robots in much the same way as they interact with other people, it's crucial that we adopt a broad perspective. We're just as concerned with softer considerations, such as how people should interact with robots and vice versa, which is why we need to take an interdisciplinary approach if we are to succeed."

2025 SAW DANICA KRAGIC receive the Per Uddén Award, a personal accolade honouring the memory of Promobilia's founder. The prize is awarded to individuals who have made outstanding contributions to improving the quality of life and increasing the independence of people with disabilities.

"It's an immense honour to receive this award, and I feel both humbled and thankful."

She describes innovator Per Uddén's vision of technology that enhances people's independence as a key source of inspiration in her own research.

"I'm so grateful for the support we've received from Promobilia. The fact that these pioneers are daring to invest in us and provide us with the resources to study this field is absolutely in the true spirit of Per Uddén."

In supporting innovative projects, promising researchers and new ideas, the Promobilia Foundation is contributing to a more active and independent life for people with disabilities. Tove Alm, Scientific Director at Promobilia, explains the research that the Foundation wishes to encourage and how the process of assessing new projects and research ideas works.

From research idea to real-life impact – how projects are selected

THE PROMOBILIA FOUNDATION SUPPORTS

everything from activities and projects to long-term research initiatives spanning several years. What they all have in common is a focus on making a real difference for people with disabilities.

“It’s vital for us that the funds we distribute genuinely make a difference and create change for the people concerned,” says Tove Alm, Scientific Director at Promobilia.

THE RESEARCH FUNDING spans many disciplines and is often built on collaboration across different research fields. This can range from prosthetics and other assistive devices to research into vision, hearing and neurological conditions that affect mobility.

“We support research ranging from the molecular level to technical innovations. The projects involved in our larger, long-term initiatives are often interdisciplinary. We strive to link up medical discoveries with technical innovations and find ways for the results to be used in clinical practice and in the community.”

A large number of researchers apply each year for support to develop their scientific projects. But even though the



“We cover a broad spectrum. The funding could support anything from research at the molecular level to technical innovations and rehabilitation,” explains Tove Alm, Scientific Director at Promobilia.

applications often have urgent and important goals, far from all of them receive funding. The projects are carefully scrutinised from several angles, and only the best will be awarded a grant. The Promobilia Foundation’s Technical and Scientific Committee is the body responsible for the selection process.

“We assess the scientific quality of the applications, whether the research questions are relevant to the purpose and whether the methods are realistic. We also place great importance on demonstrating how the results can be put to real-world use.”

IN RECENT YEARS, the Promobilia Foundation has expanded its research support, not least through investment in larger strategic projects, giving the Foundation greater opportunities to make an impact and create real change. Tove Alm believes that these initiatives are important for the entire field of research.

“We want to enhance and raise the profile of research that helps improve the lives of people with disabilities. As a foundation, helping to create the right conditions for a strong research environment in Sweden in this field is truly rewarding.”



The Promobilia Foundation's grant and funding types

Project funding

Funding for research projects aimed at promoting a more active and independent life for people with disabilities. Funding can be applied for over one to three years, with a value of up to SEK 1 million per year.

Application period: February.

Fellowships

Promobilia Fellowships are the Foundation's research positions for early-career researchers in the field of disability. The funding is aimed at researchers who are close to completing their doctorate or who have obtained their doctoral degree within the past three years. The grant amounts to SEK 1 million per year for two years, with the possibility of extension.

Application period: September.

Grants

Support for activities and interventions that directly benefit people with disabilities. Grants can be applied for to support practically oriented initiatives, knowledge dissemination and other efforts that promote greater participation, improved function and a more active life.

Strategic initiatives

In addition to the support that can be applied for, the Promobilia Foundation initiates long-term, resource-intensive research and development initiatives with particularly high potential to lead to broad implementation and lasting improvements for people with disabilities.

Technical and Scientific Committee (TSC)

OLLE NILSSON, Chairman of the TSC. Professor of Orthopaedics at Uppsala University, with research into areas including bone healing and orthopaedic implants.

CHRISTINA BROGÅRDH, professor, physiotherapist and docent in Rehabilitation Medicine at Lund University.

MIA VON EULER, professor, specialist physician in neurology and clinical pharmacology, and President of Sophiahemmet University.

CHRISTIAN ANTFOLEK, professor of Biomedical Engineering at Lund University, with research into neurotechnology and technical solutions.

wheel joy

in the tennis hall

For the members of Stockholm Wheelchair Tennis Club, the activity is about much more than just sport and exercise – it creates a sense of community, belonging and joy. The club is one of the recipients of a grant from the Promobilia Foundation.

Text: Karin Cedronius // **Photo:** Stefan Bladh

"I train five days a week and dream of playing at the US Open. The best thing about tennis is the travel, the competitions and all the new friends I've made," says Jeremy (17), who is coached by Niclas Rodhborn.



It is Tuesday afternoon and training is in full swing at Järfälla tennis hall. On court one, three young men are playing an intense practice match. Balls fly over the net and the players work up a sweat as they push each other with powerful shots. By the side of the net, coach Niclas Rodhborn calls out his instructions. It looks like any other training session, but there is one difference. The players are in wheelchairs.

“Wheelchair tennis is actually very similar to conventional tennis. The only difference from standing tennis is that the ball is allowed to bounce twice before it’s out of play. But getting around the court is tough, of course, and it takes a lot of practice to get it right,” says Niclas Rodhborn, Sports Director at Stockholm Wheelchair Tennis Club (SRTK).

Niclas has been a wheelchair user himself since a car accident at the age of 19 left him with a broken back. At the time, he was a promising ice hockey talent in Visby, with his sights set on an NHL career. When the accident put an end to those plans, the grief was immense, and Niclas Rodhborn found himself frantically searching for something to replace hockey, without success – until he discovered tennis.

“I’d tried everything from archery to athletics but nothing had lit that spark. I missed playing a sport that involved a ball. But when I found wheelchair tennis, it was love at first sight. It was just incredibly

fun and I loved how similar it was to conventional tennis.”

This marked the start of a long and successful career in wheelchair tennis. He is now 57 and has hung up his competition racket, but his career included 22 world championship titles and three Paralympic appearances. Today, he focuses on coaching the club’s members, alongside his work as a tennis commentator on TV.

THE CLUB’S CHAIRMAN Thomas Dahlgren has a similar spinal cord injury to Niclas Rodhborn, but he was 50 years old when a skiing accident left him with a broken back. For Thomas, wheelchair tennis became a way to find his way back to the active life he had led before the accident.

“I’ve been playing tennis since I was about 13 and was very active in both tennis and skiing before my accident. When I found wheelchair tennis, it became a way to continue with a sport I loved, but also a way to make friends in a similar situation to my own, which is incredibly valuable.”

The friendship and sense of community are a key aspect of wheelchair tennis for all the club’s members, as Thomas points out.

“Many wheelchair users, both young and old, find themselves feeling rather excluded. An activity like wheelchair tennis can be the spark that rekindles a lust for life and breaks the loneliness and isolation that many people feel.”

Wheelchair tennis is played on a standard tennis court, but with the unique rule that the ball is allowed to bounce twice. Players use specially built wheelchairs for maximum mobility and quick turns. Featuring in the Paralympics since 1992, the sport is divided into men’s, women’s and quad categories. The quad category is for players with impairment in both arms and legs, and in this case the racket can be taped to the hand if necessary.



“As soon as I hit my first shot, I knew straight away that wheelchair tennis was the sport for me,” says Alek.



The balls are kept between the wheelchair’s spokes for easy access during training.



Club chairman Thomas Dahlgren and coach Niclas Rodhborn both found their way back to an active life through wheelchair tennis after their spinal cord injuries.



That is also one of the reasons why Stockholm Wheelchair Tennis Club focuses not just on elite players. It is a club for anyone who wants to take part. The membership spans a wide range of ages and ability levels.

“We want people to come and join us as a way to have fun, get active and meet friends. Yes, we have players who compete at a high level, but no player is more important than any other, and as a coach I always make sure everyone gets to shine,” says Niclas Rodhborn.

TO HELP MORE PEOPLE discover the sport, the club organises popular camps during school holidays and also offers taster sessions. Training takes place at various tennis halls around greater Stockholm – from Mälarhöjden and Järfälla to Solna and Salkhallen in Bromma.

“We’re a club with no facilities of our own, so we hire courts in various tennis halls instead. It’s a way for us to access better time slots so that more people can come and play tennis at reasonable hours,” says Niclas.

Today, Jeremy, Alek and Patric are in Järfälla for training. All three are deeply committed to tennis and train several days a week. It shows in their concentration and technique. The shots are powerful and the specially built sports wheelchairs with angled wheels spin around the court at breathtaking speed. Seventeen-year-old Jeremy has been playing since he was 12, and Patric, who is 38, will soon have been playing for a couple of years. Twenty-one-year-old Alek started at the age of 16. Although they are all at different levels, the game flows well, and Jeremy, the most competitive of

“One advantage of wheelchair tennis – *everyone can play against everyone.* Standing and wheelchair players can even play together.”

the three, still faces a decent challenge as he fields shots on his own on one side of the net while Alek and Patric play together on the other.

“That’s another great advantage of wheelchair tennis – everyone can play against everyone. Standing and wheelchair players can even play together. I sometimes do that with my family and friends,” says Thomas.

“And anyone who plays less than once a week had better watch out – they’re not going to beat us even if they are standing up, I can promise you that,” adds Niclas with a broad smile.

BUT TENNIS is not a cheap sport, and many wheelchair users don’t have deep pockets, though of course this is not true for everyone. Membership fees and equipment costs can quickly add up, as can the cost of coaches, courts and camps. The grant that SRTK receives from Promobilia – SEK 200,000 per year over five years – therefore makes an important difference in helping to keep participation fees down and make the club more accessible to more people.

“It’s a hugely important contribution to our club, and it’s wonderful to know that Promobilia understands how vital this activity is. We’re incredibly grateful,” concludes Thomas.

After a successful career in wheelchair tennis, Niclas Rodhborn now shares his experience with Patric and Jeremy on the court.

Promobilia's Board

Three questions for Chairman **Jan Bernhard Waage** ←
On responsibility, the future and the joy of leading a foundation that makes a difference.

1. What makes you most proud when you see what the Promobilia Foundation is helping to achieve?

"I feel immense pride when I meet the talented researchers that Promobilia funds. On a few occasions, I've even been able to meet the patients taking part in the projects. Hearing their stories and seeing what a difference the research can make in practice – that feeling is hard to beat!"

2. What is your view on the task of managing Promobilia's resources?

"It's a long-term balancing act. On the one hand, we want to be able to award as much funding as possible. On the other hand, we have a responsibility to ensure that the Foundation's assets endure and can continue to do good for future generations.

"We've gradually increased the research grants in recent years, and are aiming for around SEK 100 million annually. At the same time, we've adjusted our asset management to better reflect our long-term perspective.

"Bringing in highly capable staff, both in the office and in our various committees, has been crucial to the success of our strategy."

3. How do you want Promobilia to develop going forward?

"Promobilia's vision is to make a real difference for people living with disabilities. Going forward, we want to get even better at ensuring that the research we fund brings concrete benefits – by turning more research results into new treatments, medicines and assistive devices that reach the people who need them."



JAN BERNHARD WAAGE

Chairman

Has extensive experience in fund and asset management as well as board work in Swedish and international companies.



ERIC PERSSON

Vice Chairman

A senior business leader with experience in mergers and acquisitions and business development.



TOMMY TROLLBORG

Secretary General

Has a degree in economics and is a former authorised public accountant with experience in Swedish and international companies.



BO ENGMAN

Member and Chief Medical Engineer

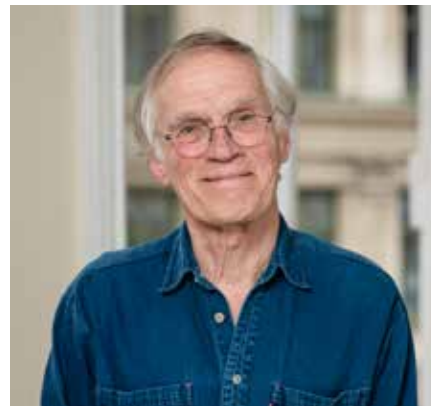
Has extensive experience in developing assistive technology at the company Permobil.



EVA LARSSON

Member

Has a degree in economics and is a former authorised public accountant. Served as the Promobilia Foundation's Administrative Director for many years.



OLLE NILSSON

Member

Professor of Orthopaedics at Uppsala University, with research into bone healing and orthopaedic implants.



Year in figures

Funding distributed	2025	2024
<i>All amounts in SEK thousands</i>		
Project funding	24,963	20,687
Strategic initiatives	38,703	20,802
Fellowships	9,200	15,875
Total	72,866	57,364

Investment Committee

Strategic, stable asset management creates the conditions for the Promobilia Foundation to continue developing its support for research, innovation and long-term initiatives.

Investment Committee: Eric Persson (Chairman), Jan Bernhard Waage, Märtha Josefsson, Karl Trollborg and Nils-Henrik Tideberg.

Promobilia's office

The Promobilia Foundation's office is responsible for day-to-day operations and comprises the following staff: Patrik Malmunger (CEO), Tove Alm (Scientific Director) and Dragana Krstic (Assistant).

In 2025, project funding, fellowships, strategic initiatives and grants were awarded across a wide range of areas – from research into pain after amputation and dyslexia to initiatives for better home environments for children with cerebral palsy and activities organised jointly with Cirkus Cirkör.



Four-year-old Lo trains with a customised frame runner.

New funding awarded in 2025

Strategic initiatives

Interventions to increase physical activity in children and young adults with motor disabilities
Karolinska Institutet

Promobilia Programme for Parkinson's (PPP)
*Karolinska Institutet/
Lund University*

Promobilia Centre for Electroceuticals
Linköping University

SAInt – Situated Agentic Intelligence
KTH Royal Institute of Technology

Fellowships

The predictive eye: detecting Parkinson's disease in the prodromal phase through ocular signatures of temporal prediction errors
*Promobilia Fellow (postdoc)
Davide Frattini, Karolinska Institutet*

Project funding

Next-generation protein medicines for treating neurodegenerative diseases, with a focus on Alzheimer's disease, Parkinson's disease and frontotemporal dementia
KTH Royal Institute of Technology

Early factors driving functional recovery of the hand after severe stroke
Karolinska Institutet

Restoring motor and sensory functions with a wearable sensorised arm-hand exoskeleton (Dexterous-exo)
Chalmers University of Technology

Long-term follow-up of children treated with hypothermia therapy, evaluating motor function, executive functions, physical activity, quality of life and self-esteem
Region Stockholm

Triceps reconstruction in individuals with tetraplegia – Evaluation of a shortened rehabilitation program, patient experiences and changes in kinematics of the upper extremities during wheelchair use
Region Västra Götaland

Brain health, cognitive function and quality of life in congenital metabolic diseases: the importance of early diagnosis and treatment (Metahealth)
Karolinska Institutet

Communicative access in stroke follow-up – investigating and supporting health literacy in people with communication difficulties after stroke
Uppsala University

New support structure for healing peripheral nerve injuries – based on functionalised silk fibres in a hyaluronic acid tube
KTH Royal Institute of Technology

Neuroplastic changes and effects of transcranial magnetic stimulation on recovery of motor function in the upper and lower extremities over the long term after stroke
Karolinska Institutet

Dialogic reading on a large scale and in close proximity: evaluating intervention effectiveness and biological and behavioural mechanisms in children with language delay and their parents
University of Gothenburg

Sensorimotor plasticity in the human cerebral cortex after tendon transfer surgery
Karolinska Institutet

Clinical and epidemiological studies of congenital skeletal abnormalities
Karolinska Institutet

Digital technology for assessing and supporting motor function and participation in Parkinson's disease
Karolinska Institutet

Intelligent control of lower-limb prostheses and exoskeletons using surface EMG
Lund University

High-intensity functional exercise with simultaneous cognitive challenge (HIFE-cog) for older adults at risk of falls
Umeå University

The development of a rapid cognitive screening test using Advanced Eye-Tracking Technology
Örebro University

Revealing vascular dynamics in spinal cord injury: a 3D perspective
Karolinska Institutet

Physical activity in people with Parkinson's disease – risk factors, effects of exercise and links to brain function.
Karolinska Institutet

Development of a quantitative assessment of the home environment to improve treatment of children with cerebral palsy
Lund University

Cogtech: the effect of technology-assisted rehabilitation after brain injury
Karolinska Institutet

Evaluation of expiratory muscle strength training in Parkinson's disease – a randomised controlled trial (RCT)
Karolinska Institutet

Biomechanical risk factors for pressure injuries during wheelchair use
The Swedish School of Sport and Health Sciences

Towards affordable robotic guide dogs – creating trust, safety and independence for people with visual impairments
KTH Royal Institute of Technology

Advanced diagnostics, therapy and rehabilitation: improved recovery of arm and hand function after nerve injury
Umeå University

A West Swedish multicentre study on bone conduction implants (Asmus)
Chalmers University of Technology

Development and evaluation of a bone conduction implant for people with unilateral hearing loss
Linköping University

International study on surgical reconstruction for pain after amputation
Region Stockholm

Meta-Foot: bio-inspired hierarchical smart metamaterials mimicking skin-muscle-bone architecture for intelligent prosthetic feet
KTH Royal Institute of Technology

Life after brain injury: psychosocial consequences for adults who were injured in childhood
Karolinska Institutet

Managing time after acquired brain injury
Karolinska Institutet

A game changing therapy for lasting pain relief
Karolinska Institutet

Long-term follow-up after COVID-19 and underlying mechanisms related to cognitive function, fatigue and orthostatic intolerance in post-COVID
Karolinska Institutet

Pearl: electrical stimulation in the periwound area with adaptive impedance reconstruction and modelling of layered tissue
Lund University

Future stroke treatment: biomarkers, neuroprotection and regenerative strategies
Lund University

Grants

Fufdok – a national collaboration platform for doctoral students in disability research
Centre for Disability Research, Uppsala University

Scientific meeting: Biomechanics to solve clinical needs
Lund University

Scientific meeting: Newborn screening for rare but treatable diseases
Karolinska Institutet

Scientific meeting: Nordic movement analysis meeting
Karolinska Institutet

Research report on dyslexia
The Crown Prince Couple's Foundation

Circus for health
Cirkus Cirkör

Training camp frame football
Stockholm Framfotboll IF

Scholarship

Raising awareness of dyslexia and reading and writing difficulties
Gulistan Kavak

"Our vision is to create
a world where ***all individuals
can lead independent and
active lives***, regardless
of disabilities."



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