

# NSWO'S YEAR IN REVIEW

**ANNUAL  
REPORT OF  
2024**

**Nederlandse Vereniging voor  
Slaap- en Waakonderzoek**  
**Dutch Society for Sleep-  
Wake Research**



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# PREFACE

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Dear NSWO members,

The 2024 NSWO Year in review is here! It again gives a wonderful insight in the year we had. With six PhD theses published, multiple prizes and grants awarded to talented researchers and successful meetings in Nijmegen en Eindhoven, it was truly an inspiring year for sleep and wake research.

Reflecting on 2024, the words 'coming together' seem to best reflect the past year. Many of us were coming together at the spring and fall symposia to meet each other, hear about interesting new research and generate new ideas. Coming together also happened at an international level: the Dutch representation at the Sleep Europe 2024 in Seville was impressive, again we were one of the countries that had most participants visiting. No one can have missed the many presenters of Dutch Sleep and Wake research at this conference. And coming together with the other Dutch sleep societies. We have jointly organized multiple events, worked together on bringing sleep further and are exploring how we can continue as one front for sleep in the Netherlands.

Nothing of this would have been possible without you, which I want to emphasize with a word of thanks. First to Ploon de Potter, Sanne Hoepel, Marieke Vringer and the PR committee for making this year in review possible, and of course also a thank you to all other contributors. Additionally, I'd like to thank all members of the NSWO board and their committees – do keep on reading if you are still wondering who they are and what they do. Without them the NSWO would not be able to exist. And lastly, a thank you to our members, with whom we together so proudly represent sleep and wake research in the Netherlands. Let's keep on making sleep count!

Annemarie Luik  
*NSWO President*

# AIMS OF THE NSWO

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The NSWO (Dutch Society for Sleep-Wake Research) was founded in *June 1990*. The NSWO is an independent society consisting of and aimed at professionals in the field of sleep and sleep disorders. We bring together sleep researchers, physicians, and supporting staff working in the area of sleep and sleep disorders and promote the exchange of knowledge and expertise regarding the functions and mechanisms of sleep, including sleep disorders and their treatment.

## Aims of the NSWO

- 1. Encouraging interaction and knowledge transfer between researchers and clinicians working with sleep and sleep disorders*
- 2. Serving as a professional advisory body for the government, health care organizations and institutes*
- 3. Providing information about sleep and sleep disorders to the general public in the Netherlands*
- 4. Facilitating and promoting scientific research in the field of sleep*
- 5. Maintaining contact with patients organisations and (international) scientific societies*

# NSWO BOARD

The NSWO's board consists of 7 motivated members, who fulfill the role of president, secretary, treasurer or chair of one of the four committees of the NSWO. Later in this report, the various committees are introduced.



**ANNEMARIE LUIJCK,  
PRESIDENT**



**SEBASTIAAN OVEREEM,  
SECRETARY**



**KARIN VAN RIJN,  
TREASURER**



**MAX LAANSMA,  
CHAIR EDUCATIONAL COMMITTEE**



**JOYCE REESEN,  
CHAIR EARLY CAREER SCIENTISTS**



**DENISE BIJLENGA,  
CHAIR SCIENTIFIC COMMITTEE**



**TOM BRESSER,  
CHAIR PR COMMITTEE**

# HILBERT KAMPHUISEN DISSERTATION AWARD 2024: CHRISTA VAN DER HEIJDEN

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Every other year, a designated jury from the NSWO awards a PhD student with the Hilbert Kamphuisen dissertation prize for writing the best PhD dissertation.

Hilbert Kamphuisen (1931-2013) was professor of Clinical Neurophysiology at Leiden University. He was, together with the late Guus DeClerck, one of the founders of the NSWO. With other colleagues he founded the sleep centre in The Hague that is to this day a well established sleep centre in Haaglanden Medisch Centrum. He was well-known as the “sleep professor” and gained publicity with his study about sleep on the North Pole. He was author of the book ‘Een hoofd vol slaap; over slapen, waken, dromen, snurken, slapeloosheid en andere slaapkwesties’.

The dissertation prize is named after this honorary member of the NSWO. All PhD students who are members of the NSWO and apply for a contribution towards the costs of publication of their thesis automatically apply for this award. The award consists of an honourable mention and a plaque. On this plaque is written ‘Hilbert Arie Cornelis Kamphuisen Prijs’ and the name of the winner. Al de Weerd wrote an obituary about Hilbert Kamphuisen.

This edition, 6 PhD theses were nominated, and the winner was announced during the 2024 Fall Symposium (see page 17).

The **2024 Hilbert Kamphuisen dissertation prize** was awarded to **Christa van der Heijden**, who wrote her dissertation on *Sleep as a window to target traumatic memories*.



*"The focus of this dissertation is on post-traumatic stress disorder (PTSD) and its relationship with sleep. PTSD is characterized by intrusive trauma memories and sleep disturbances. Sleep plays an important role in memory function and is closely linked to psychiatric symptoms. In this dissertation, we investigate whether sleep can serve as a target for intervention to enhance the effectiveness of daytime trauma therapy. Additionally, we examine how sleep-related memory processes are associated with daytime PTSD symptoms."*

## Want to know more?

Are you curious about the results? The main findings from the thesis were published in 2024 in [Current Biology](#).

Do you want to read more? Susanne de Joode interviewed Christa for the NSWO's website. You can find an article about [posttraumatic stress disorder: sleep as a problem and a solution](#) to learn about the role of sleep in PTSD and [improving posttraumatic stress disorder symptoms using 'sleepsounds'](#), if you want to know more about applying 'Targeted Memory Reactivation' in the treatment of PTSD.

Congratulations,  
**Christa!**



# PIET VISSER POSTER AWARDS

The **Piet Visser Poster prize** is annually awarded at the fall symposium. The prize consists of a trophy with a small bronze statue that depicts ‘Strive for the highest’. The winner’s name will be engraved on the statue, joining the names of all previous winners. Piet Visser (1919-2009) was an honorary member of the NSWO and one of the founders of the society. At the autumn symposium in 2007 he was seen talking animatedly by the posters. Naming the poster prize after him fits well with the great amount of attention that Piet always had for young researchers.

The Piet Visser Poster prize is awarded by a designated panel of judges based on the scientific quality of the research and the poster presentation. An **Audience prize** is also awarded to the poster with the most votes from the audience.



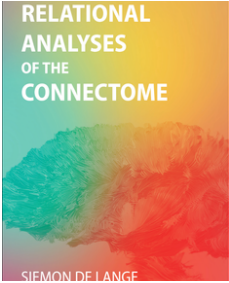
**Tom Bresser** won this year the Piet Visser Poster prize 2024 for his poster ‘Insomnia Subtypes Have Differentiating Deviations in Brain Structural Connectivity’. In this study, heterogeneity within insomnia disorder by examining structural connectivity in different insomnia subtypes was investigated. The results showed different patterns of deviating connectivity in insomnia subtypes, predominantly in the ventral attention network, limbic network, and default mode network. Subtype connectivity deviation profiles differed significantly compared to random subsamples of the entire insomnia group disregarding subtype. This study provided the first indication that insomnia subtypes show different profiles of altered structural connectivity.

**Marieke Vringer** won the Audience prize 2024 for her poster ‘Smaller hypocretin cells after influenza A/H1N1 virus infection in mice’. In this study, a causal relationship between influenza infection and the development of narcolepsy was investigated. Narcolepsy is associated with a lack or dysregulation of hypocretin cells in the hypothalamus. These cells were observed to be smaller in infected mice, compared to healthy mice, which support the idea of an autoimmune cause in the development of narcolepsy.





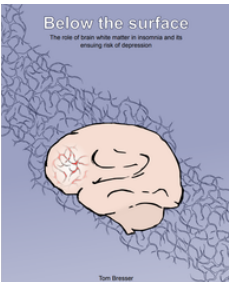
# HORA EST: DISSERTATIONS OF 2024



**Siemon de Lange** investigates how brain regions are interconnected and how disruptions in these connections relate to brain disorders. By examining brain networks across different scales and modalities, the research identifies common patterns of disconnectivity, particularly in central connections, and explores brain correlates of insomnia, depression, and anxiety. Additionally, it contributes new methods for analyzing brain networks, improving our understanding of their organization and how they are affected by disorders.



**Adrienne van der Hoeven** studied sleep disorders in two different contexts: central hypersomnolence disorders, such as narcolepsy and idiopathic hypersomnia, and sleep disturbances in the Intensive Care Unit. The causes vary, but the sleep patterns in both settings show similarities. This suggests that insights from one domain can enhance our understanding of the other. My findings highlight the need to refine diagnostic criteria and assessment methods. My research contributes to the development of more precise diagnostics and a better understanding of the relationship between sleep and well-being, with the aim of improving prevention, treatment, and patient care.



**Tom Bresser** studied the role of brain white matter in insomnia disorder. In a longitudinal study they showed that white matter microstructure in a subpart of the internal capsule was predictive of depressive symptom progression dependent on whether people with insomnia received treatment or not. Additionally, a combination therapy led to a small change in white matter microstructure of the right superior corona radiata. The other experimental chapters showed that insomnia disorder is linked to altered structural connectivity, particularly in frontal-subcortical circuits and networks related to limbic network, default mode network, and salience network. Furthermore, the diverging patterns in structural connectivity deviations between different insomnia subtypes highlight the possibility of multiple neural correlates contributing to the same single diagnostic label. Future research will benefit from larger samples, deeper phenotyping, and examining dysfunctional brain networks to further disentangle the neural correlates underlying insomnia disorder

# HORA EST: DISSERTATIONS OF 2024

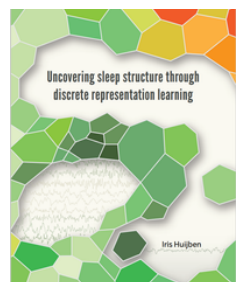
**Bernice Wulterkens** studied the coexistence of obstructive sleep apnea and insomnia. This coexistence in patients is increasingly recognized, a condition known as comorbid insomnia and sleep apnea (COMISA). COMISA tends to worsen the problems related to each disorder, leading to increased nocturnal disruptions and exacerbating daytime impairment, thereby significantly reducing quality of life. Furthermore, the presence of insomnia complicates the treatment of obstructive sleep apnea. In this thesis, both traditional and newly developed methods to assess sleep are explored to further understand COMISA and improve its timely recognition and diagnosis.



**Jean-Pierre Ho** studied obstructive sleep apnea (OSA), a prevalent sleep-related breathing disorder. While maxillomandibular advancement (MMA) is widely recognized for its effectiveness, certain aspects of this procedure remain uncertain. This research, therefore, examined the indications, surgical techniques, and outcomes of MMA in patients with OSA. A systematic review and meta-analysis confirmed that MMA is more effective than multilevel surgery for OSA treatment. Additionally, both MMA and hypoglossal nerve stimulation emerged as effective and safe treatment options. Retrospective studies further indicated that patients with hypopnea-dominant OSA respond particularly well to MMA, whereas those with cardiovascular diseases may be less ideal candidates. Interestingly, MMA also proved beneficial for patients with a high percentage of central and mixed apneas, demonstrating its broad applicability. Finally, the study highlighted the potential for surgical inaccuracies in MMA, underscoring that while it is a highly effective treatment, it remains a complex surgical procedure requiring precision and expertise.



**Iris Huijben** worked on developing new methods to analyze polysomnography data, with the goal of gaining a deeper understanding of sleep structure in the healthy population as well as in individuals with non-REM parasomnias. The scoring of every 30 seconds of sleep across five sleep stages leads to the loss of information that was originally captured in the polysomnography measurement. Through pattern recognition and machine learning, we identified "intermediate stages" that are not always consistently scored by sleep experts and may therefore differ from periods in which someone is clearly in one specific sleep stage. We also learned a great deal about sleep structure in individuals with non-REM parasomnias, particularly regarding the relationship between N3 sleep and the likelihood of a typical episode (e.g., sleepwalking). For instance, we found that longer periods of continuous N3 sleep have a higher probability of resulting in an episode than shorter N3 periods.

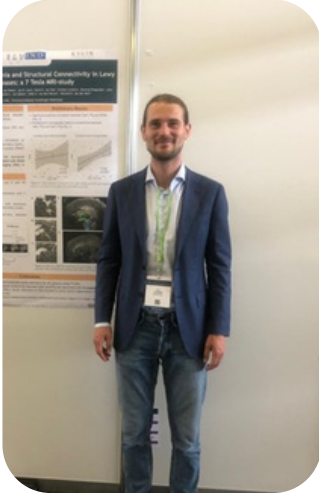


# SPRING SYMPOSIUM 2024

## YOUNG TALENT FUND

### The Young Talent Fund

At the spring symposium, two early career researchers were awarded the NSWO Young Talent Fund, to support their visit to *SLEEP Europe 2024 in Seville*. Max Laansma (PhD candidate, Amsterdam UMC) en Sanne Hoepel (PhD candidate, Erasmus MC) share their experiences in Seville!



**Max:** Thanks to the NSWO Early Career Grant, I had the privilege of presenting my PhD research at the ESRS *SLEEP Europe 2024* conference. It was my first time attending the conference, and I was excited to meet other researchers and clinicians in the sleep field. My research, focused on defining REM sleep behavior disorder (RBD) in Lewy diseases using polysomnography and MRI, was selected for both a poster and oral presentation, giving me the incredible opportunity to share our findings on a prominent stage. Another highlight was participating in the RBD roundtable discussion with principal investigators from global RBD cohorts. I introduced our plans for the Dutch cohort and connected with the international RBD consortium, further expanding our network. The conference also allowed me to make new connections with researchers working on diverse topics. Thank you NSWO for enabling me to present my work and expand my network within the international sleep community!

**Sanne:** During the *SLEEP Europe 2024* conference I shared my work on sleep and brain health in the general population with a broader audience. I was selected to present my work on the association of substitutions of sleep, sedentary behavior, and physical activity with the risk of dementia and stroke during a poster presentation and an oral presentation. This was a great opportunity to share our findings, which demonstrate the importance of sleep and physical activity for dementia. On Friday afternoon, I presented my findings on sleep health profiles in the general population during a symposium on multidimensional sleep health. In the evenings, I met young sleep researchers from all over Europe during the Early Career event of the ESRS Early Career network and the get-together for Dutch scientists organized by the NSWO. I am grateful for the support from the NSWO which allowed me to participate in this conference!



# MEET: EARLY CAREER SCIENTISTS (ECS) COMMITTEE



**JOYCE REESEN  
(CHAIR)**



**JARI GOOL**



**SANNE HOEPEL**



**MARIEKE VRINGER**



**EVA VAN HEESE**

Hi all! We are the Early Career Scientists (ECS) of the NSWO, but you might also know us under our previous name: Jonge Wetenschappers Commissie (JWC). Our aim is to connect early career researchers within the NSWO. To this end, we organize various activities, including workshops and network events. We host a [LinkedIn group](#), where we share interesting papers and upcoming events. In 2024, we said goodbye to Tom and Veronique, who joined the PR committee, and Mariana, Bernice, and Adrienne, who finished their PhD. The drinks we hosted during [Sleep Europe](#) in Seville were our highlight of 2024! It was great to share tapas with so many young - at heart - researchers from the Netherlands. We also had great fun at the art exhibition on sleep that was hosted in Amersfoort in December 2024.

*We will start 2025 strong with a new workshop about designing infographics and graphical abstracts to support early career research in sharing their work. Looking forward to the rest of 2025!*

# MEET: EDUCATION COMMITTEE (EDUCIE)



**MAX LAANSMA  
(CHAIR)**



**ROLF FRONCZEK**



**SHANNA VAN  
TRIGT**



**SOPHIE  
SCHUBERT**

*Each year we traditionally organize the Spring Symposium together with the Early Career Scientists committee, to invite a sleep research group to showcase their work at their institute. The 2024 edition marked our first collaboration with SVNL and featured a diverse program spanning topics from dreaming to dementia, at the Donders Institute in Nijmegen. We also awarded two young scientists travel grants to attend the ESRS Sleep Europe conference and present their work. At the conference, it was fantastic to reconnect with familiar NSW0 faces, exchange ideas, and even have the opportunity to recruit new committee members!*

*While we are sad to say goodbye to Sarah Schoch after years of active involvement, we are excited to welcome Sophie Schubert and Shanna van Trigt to the team. Currently, we are busy preparing for the 2025 Spring Symposium and look forward to sharing the date and program details soon!*

*With Rolf Fronczek, another key involvement of our committee is the organization of the International Sleep Medicine Course (ISMC), taking place on June 2-5 this year. This four-day training program prepares medical specialists for the annual ESRS Examination of Sleep Medicine.*

# MEET: SCIENCE COMMITTEE (WETCIE)



**DENISE BIJLENGA  
(CHAIR)**



**RAYMOND  
NOORDAM**



**ANNE-SOPHIE  
KONING**



**DIRK JAN  
STENVERS**



**MEREL VAN GILST**



**LAURA KERVEZEE**



**LARA RÖSLER**



**EMMA VAN ANDEL**

*The Science Committee of the NSWO aims to promote the general scientific objectives of the NSWO, such as stimulating knowledge exchange among sleep researchers, providing sleep-related education, and advancing scientific sleep research in the Netherlands.*

*The committee meets every six weeks and consists of Denise Bijlenga (chair), Merel van Gilst, Raymond Noordam, Laura Kervezee, Emma van AnDEL, Dirk Jan Stenvers, Lara Rösler, and Anne-Sophie Koning. In 2024, the agenda primarily focused on organizing the Autumn Symposium, which was held at TU Eindhoven on November 29.*

*In 2025, the activities will mainly consist of supporting the conference organization of SLAAP2025, for which Merel and Raymond are both delegates.*

# MEET: PUBLIC RELATIONS (PR) COMMITTEE



**TOM BRESSER  
(CHAIR)**



**JASMIN KUHN**



**PLOON DE POTTER**



**VERONIQUE VAEL**

*The PR committee has changed quite a bit in the past year. It had been short on members for some time but now consists of four new members with Tom Bresser as chair.*

*With a new committee came new ideas, initiatives and a lot of new energy. We first defined a vision of what we would like to do as PR committee. Our main goals are to put our organization out there, to have a consistent flow of relevant output and to be very open as a point of contact for all PR related questions from outside but also inside the organization. Based on these goals we have already been working on creating LinkedIn templates and spearheading the next NSW0 Year in review glossy. We also have been working on updating the website and aim to make English translations of essential pages available. Most recently, we developed and introduced the [NSWO contact form](#) with the aim of getting a clear overview of all the members, their expertise and for what media requests want to be contacted. If you have not already, make sure to fill it in!*

*For 2025, we are planning to take up more writing and create some strong graphic designs to draw more attention to all the interesting work that is being done by members of the organization. We would like to emphasize that we are very open to be contacted by other members or committees if there are any communication related matters we can help with or if you are interested in highlighting some of your research!*

# NSWO SYMPOSIA: SPRING

## Spring Symposium: *“Sleep From Dreaming to Dementia - Insights From Basic and Clinical Research”*

The NSWO/SVNL Spring Symposium of 2024 was hosted at the Donders Institute of the Radboud University in Nijmegen, in its mesmerizing *Red Room*. The symposium featured the introduction of the NSWO's **new chair Annemarie Luik**, various **research presentations**, and the **NSWO's Young Talent Funds** were awarded. Want to read more? Eva van Heese from the Early Career Scientist committee wrote a brief report on the symposium, which [was posted on the NSWO website](#).

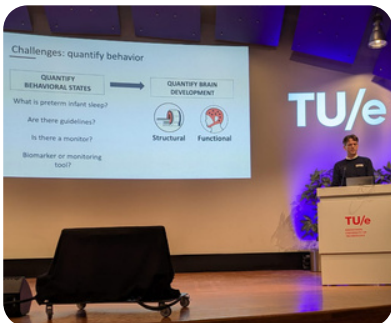
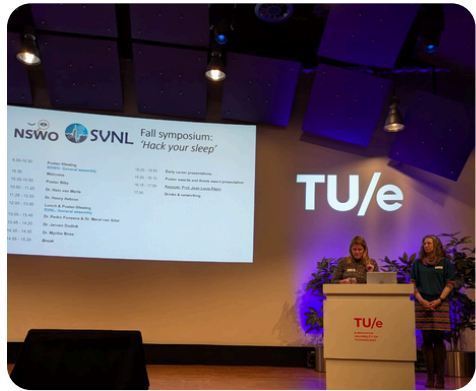




# NSWO SYMPOSIA: FALL

## Fall Symposium: "Hack your sleep"

The 2024 Fall Symposium, organised by the NSWO and SVNL, took place at the Eindhoven University of Technology. The symposium was characterized by a record-sized **poster market**, with 32(!) submitted posters, along with poster **pitches**, **interesting talks** on reshaping sleep, and an **international keynote speaker**. Furthermore, the **Piet Visser poster prizes** and the **Hilbert Kamphuisen thesis prize** were awarded! The PR committee's Veronique Vael reported on the symposium: you can read more [here](#).



# SLEEP EUROPE 2024

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In September 2024, a large delegation from the NSWO travelled to the south of Spain to participate in **SLEEP Europe, the 27th Congress of the European Sleep Research Society**, which was hosted in **Seville**. Many members of the NSWO made the trip to the south of Spain. Some even came all the way by train, supported by ESRS sustainable travel grants.

Throughout the week, the NSWO was well represented during the poster sessions, at different symposia, or even on the large stage as an **oral presentation**. In between these sessions were multiple interesting **keynote lectures** on a variety of topics, ranging from molecular regulation of sleep to pediatric sleep. A highlight was the Friday afternoon, where Jari Gool was selected for a **hot topic presentation** with his work on widespread white matter axonal loss in narcolepsy type 1.



Of course, Seville has much more to offer than just the - beautiful! - conference hall at the outskirts of the city. On Wednesday, a delegation from the Early Career researchers competed in a **pubquiz** organized by the ESRS Early Career Network in the old part of town. And on Thursday evening, NSWO members gathered at a local bar near the conference hall for a **network event**, organized by the NSWO Early Career Scientists committee. It was a great opportunity to meet fellow Dutch sleep scientists and form connections while enjoying **tapas!**

All in all, Sleep Europe was a great week and we were proud to share the research being done in the Netherlands with the rest of Europe. Looking forward to **Maastricht, 2026!**



# THANK YOU YEAR IN REVIEW 2024

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This *Year in Review 2024* will be presented at the 2025 Spring Symposium. We would like to thank everybody for contributing to this year's review, and we are looking forward to an exciting new year filled with sleep/wake research.

Are you missing anything in this review or do you have suggestions for next editions? Please reach out to the PR committee at [prcie@nsw.nl](mailto:prcie@nsw.nl)