

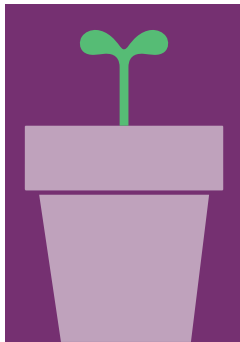


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wubbo ockels school
 for energy & climate



Wubbo Ockels School for Energy & Climate



Annual Review 2023

Colophon

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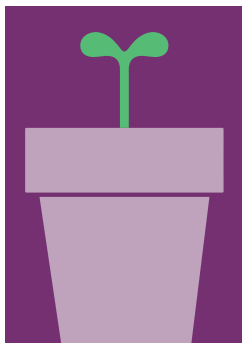
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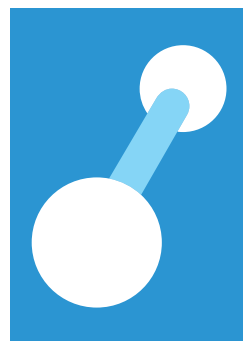
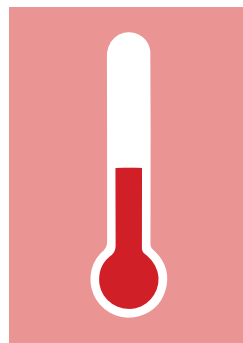
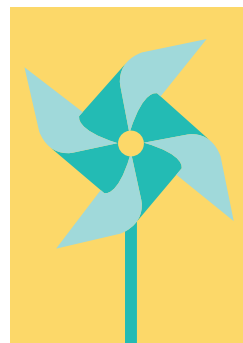
wubbo ockels school
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1 Introduction

The Wubbo Ockels School for Energy and Climate (WOS) will celebrate its one-year anniversary on 28 March with a special event at DOT Groningen, on the birthday of its namesake Wubbo Ockels. During this annual event, we will explore ‘the rights of nature’ with various speakers against the background of the School’s three themes: hydrogen/green molecules, participation in the energy transition and climate adaptation. To mark the anniversary, this special issue has been published. This booklet is a concise version of the annual report of the Wubbo Ockels School, supplemented with various interviews and interesting facts about the School’s first year in operation. On behalf of the entire WOS team: happy reading!

The daily WOS team consists of the following staff members:

- Prof. Dr Lorenzo Squintani, scientific director
- Dr Maaïke de Heij, scientific coordinator
- Leo Dvortsin, scientific coordinator
- Patricia Poppendick, coordinator hydrogen
- Anja Robbeson, communication advisor
- Pauline Bakker, education coordinator (start April 2024)
- Mathieu Muus, student assistant (in 2023)

Support staff of all 4 Schools for Science & Society

- Marcella Oldenhuizing, event manager
- Jelle Posthuma, impact journalist / science journalist

In addition, the School established a Scientific Advisory Board in 2023. The advisory board consists of members from different faculties of the University of Groningen.

The Wubbo Ockels School is a network organisation of the University of Groningen on energy and climate and is open to all interested parties. The School focuses on three core tasks: the promotion of interdisciplinary research and education, the joint design and development of research questions within a community of different faculties, and finally, cooperation with society, including knowledge institutions, companies and other organisations (both national and international).

The School also acts as a ‘knowledge broker’ by sharing knowledge to support decision-making in politics, business and other sectors. All WOS activities have added value for students and researchers. We foster new research alliances, increase the visibility and public engagement of researchers and create new opportunities for research funding.



Joos Ockels speaking at the event 'Wubbo's Legacy' 3 April 2023 © A. Robbeson



Want to read the entire annual report? Scan the QR code here



‘Everyone knows we exist as Wubbo Ockels School’

WOS director and professor of Energy Law, Lorenzo Squintani, proudly looks back on the School’s first year in this interview. According to him, the past year has laid a solid foundation for the future. Read the first part of the interview [here](#).



‘I really admire all that has been achieved in a very short time,’ Squintani begins. The Wubbo Ockels School is all about developing an ecosystem around energy and climate, he explains. ‘With this, we as a School are in a wonderful environment with partners who are all working on energy transition and climate adaptation, both inside and outside the university. It’s impossible to say how many people I have met in the past year thanks to this new ecosystem. There have been many hundreds. I think it fits exactly with the university’s Making Connections strategy.’

Interdisciplinary environment

The Schools for Science & Society have three main activities: knowledge development, education and impact. Together, the Schools work on major societal issues. Energy and climate challenges are central to the Wubbo Ockels School. In doing so, three themes have been identified that tie in with existing expertise within the UG: green molecules, climate adaptation and public participation, or involving citizens in major transitions. ‘These three themes are our centres of aggregation,’ says the WOS director. ‘We also keep looking for new topics that will become very important now or in a few years’ time, such as the twin transition, which revolves around sustainability and digitalisation.’

For all areas, Squintani knows that a mono-disciplinary approach is not enough to solve the issues. The challenges are such that different disciplines need to work together. Hence the Schools’ mission to bring together the various disciplines within the university in an interdisciplinary environment. ‘But if our School focused only on the UG, we could not achieve the transition. That’s why transdisciplinarity also plays a big role. We work together with society.’

The various partners now know how to find the Wubbo Ockels School, says Squintani. 'When it comes to energy and hydrogen, we always have a seat at the table, and when it comes to climate adaptation and participation, we are increasingly successful. Everyone knows we exist as Wubbo Ockels School. If you were to ask me as a thought exercise: Lorenzo, can you stop being the School's director now? Then I would say: yes, I can. We have reached a milestone by setting up three centres of aggregation; there is an education programme that is starting to run and we have a stable impact programme. Things have really been established.'

Research and education

Looking for collaborations to tackle the big issues is also an important aim of the School in the field of research. 'It's about being aware that there are fellow researchers working on the same issues, but from a different perspective. With the Wubbo Ockels School, we want to encourage cooperation, because it is precisely then that we create even more value. For researchers, it is sometimes difficult to fit in daily reality: they have to deliver, publish, supervise PhD students, and so on. Running a large interdisciplinary project therefore simply requires manpower, and that requires funding. The M20 programme shows how we can drive collaboration between researchers from different disciplines. But this is just one of many research tools. Last year, we developed dozens of applications for regional, national and international research funds. Always with the thought: how can we bring researchers together.'

Besides research, the School actively works to boost interdisciplinary education. Squintani highlights the summerschools and hackathons as key initiatives. 'In addition, we have been busy developing minors. Besides the existing Energy minor, developed by Machiel Mulder, we are in the process of developing new programmes, a process that takes a lot of time. In 2024, the second year of the Wubbo Ockels School, a lot of attention will again go to developing the education minors so that we can actually offer them in 2025.'

2 Research

Establishing a 'WOS Research Plan' in 2023 was the first step to strengthen the interdisciplinary research environment. Based on this plan, the Wubbo Ockels School established three research-education-valorisation hubs.

The Hydrogen Valley Campus Europe (HVCE) is one of the three hubs. In this major project, several facilities in the northern Netherlands work together in the field of green molecules. HVCE involves about 60 colleagues from five faculties on a stable basis. In addition, more than 50 external partners are active at the hub. It also has its own website and an M20 PhD project on hydrogen (awarded in 2023). The M20 Programme is a long-term initiative of the Ubbo Emmius Fund (UEF) for PhD students who want to develop as interdisciplinary researchers.

The second initiative is the Climate Adaptation Platform (CAP). The effects of climate change require the ability of people and nature to adapt. Together with partners in the Climate Adaptation Platform, the WOS is working to connect and strengthen existing research, education and outreach initiatives on climate adaptation in the Northern Netherlands. The project involves about 20 colleagues from five faculties on a stable basis and has been awarded an M20 PhD project on climate adaptation.

The third hub is the Public Participation Centre, a collaboration between the Wubbo Ockels School and the New Energy Coalition. This initiative actively involves citizens in various transitions. The project involves 30 colleagues from five faculties on a stable basis. It also has its own website and an M20 PhD project on hydrogen (awarded in 2022). The three centres of aggregation additionally developed several research proposals and education- and impact-related activities in 2023.

Broad collaboration

In addition to the M20 programme, several interfaculty PhD projects were launched, two under the HVCE (Faculty of Law, the faculty of Behavioural and Social Sciences, Spatial Sciences and FEB) and one under the Public Participation Centre (Faculty of Law and Religion, Culture and Society). Several inter-faculty project proposals were also launched or supported, with postdocs and funding for other positions (support staff; technicians; visiting scientists),

such as the Phaethon project (50M Euros), Green PowerNL (combined budget 28M Euros), JTF Train and Learn Hub (10M Euros). Moreover, several meetings were organised around specific research topics. The main ones were the symposium 'Citizen assemblies' and the conference 'New Pathways for a Just and Inclusive Energy Transition'.

The WOS also collaborated with the municipality of Groningen. This resulted in 1 postdoc (FEB) + 1 PhD project (Faculty of Law and Religion, Culture and Society). And the School, the Municipality of Groningen, EnTranCe, Alfa College and Noorderpoort worked together on "CO2 neutral Groningen in 2030". During several sessions with researchers, policymakers and industry, a series of changing principles were formulated that are considered crucial for achieving CO2 neutrality. These have been compiled in the booklet 'Two times faster than the Paris agreement'.



Left-to-right: Maaïke de Heij (WOS), Jan Kees Kleuver (Municipality of Groningen), Leo Dvortsin (WOS)
© Reyer Boxem

The WOS also prepared a Lobby Plan/Map. Individually and in collaboration with the Research and Impact cluster at the University of Groningen, the School contributed to the research agendas for Masterplan Campussen, the Economic Agenda for the Northern Netherlands, the Just Transition Fund, Nationaal Programma Groningen, Netherlands Energy Research Alliance (NERA), Top Sector HTMS and Hydrogen Research Europe (HER).

Moreover, the WOS aspires to create a platform where interfaculty PhD students in the field of energy and climate can meet. For 2024, we aim to further increase the number of interfaculty PhDs thanks to the HVCE project. The CAP initiative should also start attracting funding for interfaculty PhDs. The ultimate dream is to establish Wubbo Ockels chairs.

In 2024, the WOS aims to further strengthen the existing centres of aggregation by acquiring new research funding from regional, national and international public and private funds. There will be three M20 PhD positions available in 2024 in the fields of hydrogen, climate adaptation and public participation. In addition, the WOS plans to set up a fourth hub around the twin green and digital transition in collaboration with the Jantina Tammes School of Digital Society, Technology and AI.



WOS opening House of Connections 23 juni 2023 © Chase Wang



Patricia Poppendick, coordinator hydrogen at the Wubbo Ockels School, looks back at her 2023 highlight



‘Over the past year, I enjoyed leading several projects at the WOS aimed at developing the Hydrogen Valley Campus Europe (HVCE). Above all, I enjoyed working closely with experts from different faculties of our university and with other knowledge institutes, companies and governments at a regional, national and international level to further advance hydrogen research.

This collaboration gave me the opportunity to visit the site of the energy company RWE, for example, and see the infrastructure from above. This gave an impression of what RWE has in store for the production of renewable energy. These collaborations are crucial to connect with each other, share knowledge and work on reducing CO₂. And to see where research from our experts can play a crucial role.

One highlight for me was organising the first HVCE knowledge sessions, where we could share hydrogen-related research with a wider audience. Working with our partners from the New Energy Coalition and Hanze, I organised the event, invited people and moderated the event. There was a great turnout and people were eager to share their insights. This showed the level of commitment to developing a hydrogen economy in our region and led to new partnerships and contributions to projects.’

Interview with Linda Steg



The challenges in the field of the sustainable energy transition are not limited to one discipline, says Professor of Environmental Psychology Linda Steg. Therefore, she stresses the importance of interdisciplinary cooperation, in which the Wubbo Ockels School for Energy and Climate has an important role to play.

Steg focuses on the interaction between people and the environment. She conducts groundbreaking research into people's environmental behaviour: what drives people to act in an environmentally friendly way, and what determines the acceptance of environmental policies? The pillars of the Wubbo Ockels School, hydrogen, climate adaptation and public participation, are closely aligned with Steg's research. 'We can build beautiful new systems. However, if people don't want it or find it too expensive and don't adjust their behaviour, things won't happen. It needs public support.'

The environmental psychology professor's research is about removing barriers for the sustainable energy transition. 'This is rarely just psychological, it also involves legal, economic and technical issues, for example. It always concerns an interaction between factors studied from different fields, and this requires interdisciplinary cooperation.' According to Steg, the University of Groningen is uniquely equipped for this kind of collaboration. 'We really have the full range of disciplines here, both in the fields of social sciences and STEM. That's where the University of Groningen is really powerful.'

Facilitate and support

As a member of the Advisory Board, Steg, together with her colleague Goda Perlaviciute, is closely involved with the Wubbo Ockels School.

According to her, the School can bring together researchers from different fields and facilitate interdisciplinary cooperation. Steg also points out the importance of collaboration with society. 'It is well possible to do research that has high impact on both science and society.'

Major research proposals are increasingly about interdisciplinary cooperation and impact, the professor knows. Here, too, the Schools have an important role to play. 'Last year, for example, I worked with Lorenzo Squintani on a large proposal in the field of socio-economic aspects of hydrogen for GroenvermogenNL, the national growth fund programme. In this, the School provided excellent support. The collaboration was very valuable.'

Expand

The coming years are all about 'expanding' the Wubbo Ockels School, says Steg. 'We could, for example, further broaden the interdisciplinary cooperation in the field of sustainable energy transition. Think of researchers from Arts, Law or the social sciences doing research that can bring important insights for the energy transition. A lot is already happening, but we want to involve insights from these disciplines even better in the energy and climate transition.'

Furthermore, the importance of societal impact will continue to grow, the professor knows. 'How are we going to realise societal impact, and how are we going to communicate about it? Researchers recognise the importance, but have too little time and capacity to do it alongside their other duties. We will have to develop a structure for that. That will also be an important task for the Schools in the coming years.'

Interview with Aravind Vellayani



Aravind Purushothaman Vellayani, professor and chair of Energy Conversion at the University of Groningen, has been appointed director for hydrogen economy at the Wubbo Ockels School. As director, he wants to focus above all on interfaculty and interdisciplinary cooperation.

Purushothaman Vellayani is an expert on hydrogen, fuel cell systems and thermodynamics of energy conversion. He already worked in close cooperation with the Wubbo Ockels School, including as a member of the steering committee. In his new role as director for hydrogen economy, Vellayani's primary objectives revolve around fostering interfaculty collaboration. 'Hydrogen is an important topic for the region. The university supports this by providing knowledge.'

Different perspectives

The significance of interdisciplinarity is emphasised by the new director, highlighting that in Groningen, hydrogen is approached from a societal perspective rather than solely a technical or academic matter. 'We have an energy economy in the North. Successfully replacing natural gas with hydrogen presents a significant opportunity. We should look at the transformation from different perspectives, involving multiple faculties and areas of expertise to support informed decision-making for our society. This underscores the necessity of interfaculty collaboration.'

Additionally, Purushothaman Vellayani seeks to enhance regional coordination, particularly in furthering the university's involvement in the Hydrogen Valley Campus Europe. Lastly, he emphasises the global connectivity of the university with other knowledge institutes

engaged in hydrogen research and activities 'so that we can share knowledge and learn from each other'.

Human capital

Purushothaman Vellayani's vision for the Hydrogen Valley Campus Europe encompasses four pillars: research, human capital, shared facilities and valorization. 'We were quite successful in laying the foundations, with an emphasis from the university on human capital', says the professor. These include partnerships in projects such as the European Hydrogen Academy and Green SkyHy an Interreg project, both focusing on hydrogen teaching. Furthermore, the University of Cyprus and the University of Groningen are collaborating in the PHAETHON consortium. Within this consortium, focusing on energy transition, green hydrogen technologies are being developed, all the while working also on societal issues to be addressed in order to support energy transition.

The professor also points to regional initiatives, such as the 'JTF H2 Train & Learn Hub', aiming to train both students and professionals for the energy and resource transition. Through this project, knowledge institutions from MBO (secondary vocational education), HBO (universities of applied sciences) to university are connected to work together to develop continuous learning pathways for the region. Also, a VR hydrogen lab has been successfully initiated, and collaboration with Hanze University of Applied Sciences is underway for the development of the Hydrohub MegaWatt Test Centre, a research facility dedicated to green hydrogen.

Gatherings

Looking ahead, Purushothaman Vellayani hopes to foster interactions with stakeholders from the public and private sectors. 'We've previously held joint meetings with industry, but I would like to schedule them regularly. These meetings should be complemented by the university's interfaculty gatherings. Our goal is to develop shared plans and strategies.' His own involvement in numerous consortia and expertise centers further amplifies the reach and impact of his research. 'Collaboration will hopefully lead to full fetched laboratory facilities, for teaching and research. Also, societal involvement will help to establish technology in a social acceptable way.'

Interview with Gül Tuçaltan



The Global Center on Adaptation (GCA) is an international organisation dedicated to addressing climate change and promoting climate adaptation. The Wubbo Ockels School is working with GCA to connect and strengthen existing climate adaptation initiatives in the Northern Netherlands within the Climate Adaptation Platform. Gül Tuçaltan, Manager Research for Impact at the Global Center on Adaptation, talks about the collaboration.

According to Tuçaltan, the platform above all creates a dialogue between stakeholders in the Northern Netherlands. 'We have succeeded in elevating the conversation, advancing research, and informing policy, all while enhancing international collaboration.'



Climate Adaptation Changemakers School in the House of Connections in Groningen © GCA

As a newly established platform, the success of the Changemakers School shows that the Climate Adaptation Platform has the potential to become an indispensable hub, translating knowledge into actionable strategies for climate resilience.'

The Global Centre on Adaptation and the WOS, among other things, collaborated for the organization of the GCA Climate Adaptation Changemakers School. 'The School allowed us to provide experts from Ghana, Kenya, the Netherlands, Senegal and Uganda with actionable knowledge to promote climate adaptation,' Tuçaltan says. During the event, several professionals came together for a five-day programme focused on resilient infrastructure systems.

Tuçaltan says the programme included a session where experiences were exchanged between authorities in infrastructure and finance. Academics also discussed both the constraints of climate adaptation and the enablers, and the summerschool further focused on risk assessment in areas where data are scarce. Finally, the summerschool focused on financing, governance and inclusion.

In the future, Tuçaltan hopes to build on the success of the Changemakers School. 'Our collaboration has the potential to play a key role in educating and empowering the next wave of climate leaders, contributing to a resilient, inclusive and sustainable future.'



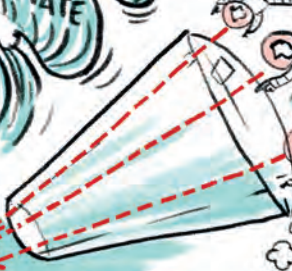
WUBBO OCKELS SCHOOL
FOR ENERGY & CLIMATE

TAKING OFF at the HOUSE OF CONNECTIONS



- 1 PUBLIC PARTICIPATION
(INCLUSIVITY! TO POLDER OR NOT TO POLDER?)
- 2 HEAT SUPPLY
IN THE BUILT ENVIRONMENT
- 3 ENERGY POVERTY
- 4 GOVERNANCE
LEARN & ADAPT
- 5 MONITORING

GCA / FUNDAMENTAL & APPLIED SCIENCE NEEDS
STRUCTURED GLOBAL FINANCING
BRINGING SOLUTIONS TO THE WORLD AT 'SCALE'



ARE YOU COMING OR NOT?

3 We focus on Action

GRONINGEN
CO₂ NEUTRAL IN 2030

TOP DOWN?
BOTTOM UP?

we make
connections

REPORT: ENERGY
THROUGH
PERSPECTIVE



1. We are all
astronauts
of planet earth

academic
communities

other
schools

finance

policy
makers

CONNECTED

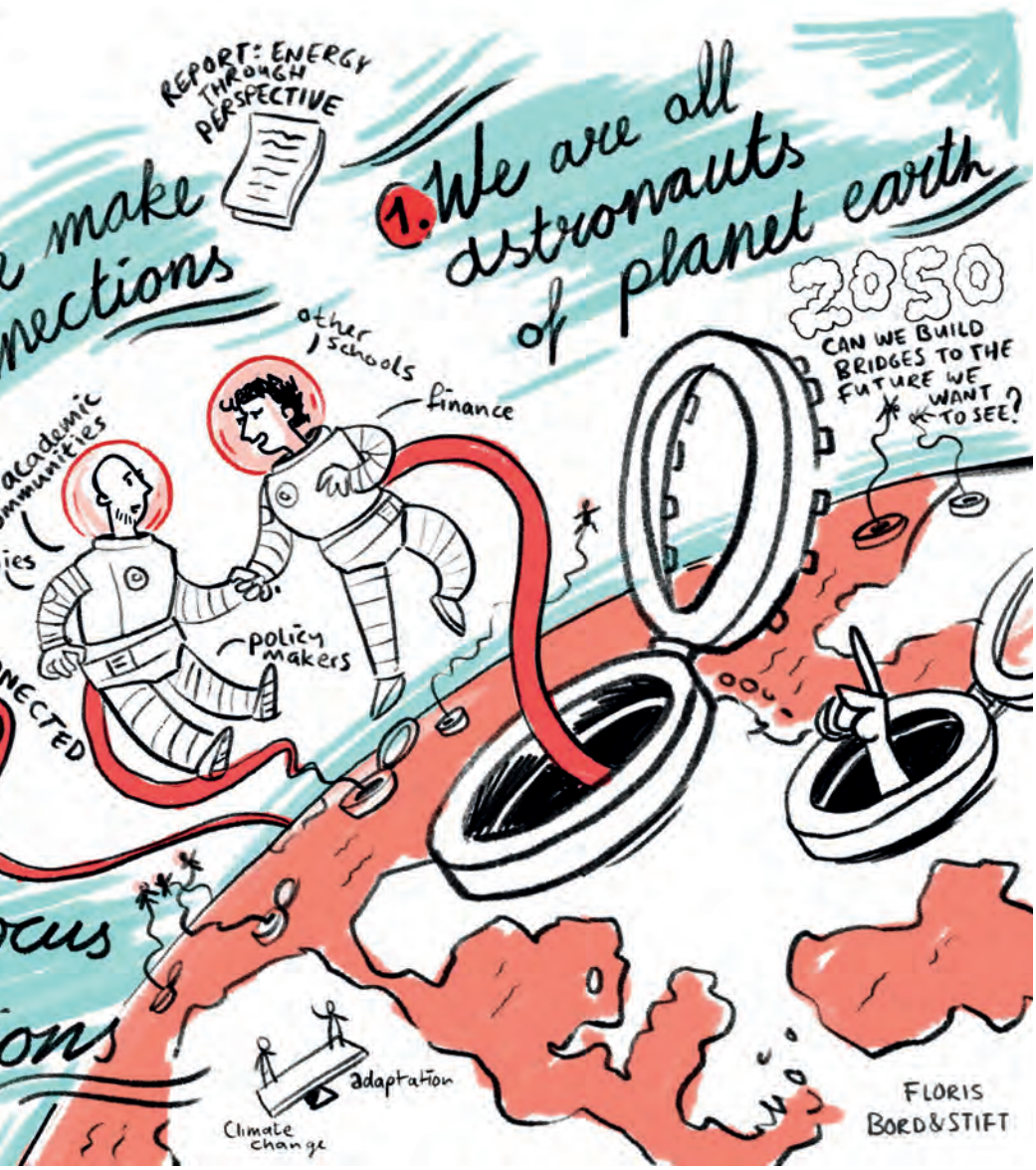
focus
ions

2050

CAN WE BUILD
BRIDGES TO THE
FUTURE WE
WANT
TO SEE?

adaptation
Climate
change

FLORIS
BORD&STIFT



3 Activities

The WOS wants to be visible and have an impact on people's daily lives. Therefore, various activities related to impact, education and research were organised last year. In 2023, as a School, we organised six annual activities in the House of Connections and at other locations in Groningen (Forum Groningen, Martinikerk, Suikerterrein and Zernike Campus).

With these events, we reached over 15,000 participants:

- The WOS event in honour of Wubbo's legacy in March/April
- The New Energy Forum (in cooperation with the Hanze and NEC) in June
- The Suikerbrij Festival (in cooperation with Coöperatie de Suikerbiedt) in September
- The European Researchers' Night / Zpannend Zernike (in cooperation with other Schools and Zpannend Zernike) in September/October
- Wind Meets Gas (in cooperation with NEC) in October
- Let's Gro Festival (in collaboration with the Municipality of Groningen) in November

For 2024, we expanded our annual calendar of activities with an additional event, Eurosonic Noorderslag last January. In addition, the WOS is organising a public day together with the other Schools on 25 May, during the UG Lustrum. We also aim to engage young people in the energy transition and climate adaptation through existing youth networks such as Energietalenten, JongRes and Youth for Climate Adaptation. A key goal for 2024 is also to connect with difficult-to-reach communities that typically do not participate in House of Connections activities or the aforementioned events.

‘The name and culture of our School derive from Wubbo Ockels’

Read the second part of the interview with WOS director Lorenzo Squintani [here](#).



In April 2023, almost a year ago, the School was officially opened. Joos Ockels, wife of Wubbo Ockels, was one of the guests of honour. Squintani: ‘The name and culture of our School derive from her husband. Her presence was obviously very nice. In her speech, she mentioned Wubbo Ockels’ three principles, which are also very important for us as a School: ‘We are all astronauts on spaceship Earth, optimism about sustainability is a responsibility, and sustainability is not less, but different, and much more fun’. I thought it was special to hear her speak; the love for her husband was still clearly visible.

The official opening of the Schools in the House of Connections followed a few months later, the WOS director continued. ‘With the opening of our location on the Grote Markt, the interaction between internal and external partners was really set in motion. As Wubbo Ockels School, we never operate purely from the University of Groningen, but actively seek cooperation with other knowledge institutions, companies and government bodies. Together, we want and are able to realise the energy transition.’

The opening was followed by several other successful events. Squintani cites the European Researchers’ Night and Zpannend Zernike as highlights. ‘There, the Schools worked together in a very nice way to make the knowledge and expertise we have within the university available to the community. The European Researchers’ Night is an event with thousands of participants, but also the small meetings have stayed with me. Take an evening meeting with various knowledge institutions on the Hydrogen Valley Campus Europe. I was really amazed at how the discussions got going and connections emerged. That’s how it should be, I thought. For me, that was one of the best evenings of the past year within the Wubbo Ockels School.’

Leo Dvortsin, scientific coordinator of the WOS, looks back on his highlight of 2023



‘The theme ‘innovation’ played an important role in the life of Wubbo Ockels, and we continue that endeavour within the Wubbo Ockels School. For us, innovation is about creating new value through smart combinations of knowledge and resources.

Our School plays a unique role by supporting local research initiatives from a broad perspective. In doing so, we not only look at technological advances, but also at their impact on society. With this, we aim to create an ecosystem for start-ups in the field of energy, climate and sustainable technologies.

Currently, this ecosystem is still too limited and fragmented in the Northern Netherlands, while the challenges call for a fundamental change. This change is driven by various forces, including technology, culture, politics and institutions, and should reflect the specific context of our region.

At the Wind meets Gas 2023 international conference, we started exploring this issue, in collaboration with the New Energy Coalition, during the workshop ‘From ideas to impact: Energizing the entrepreneurial ecosystem for the energy transition’.

These are the main outcomes we want to continue working on in the coming period: more focus on the implementation of innovations, a central meeting place for start-ups, and a strengthened focus on entrepreneurship at the university. Despite existing facilities, the energy transition remains fragmented and this calls for a cultural shift in the Northern Netherlands ecosystem.’



Anja Robbeson, communication advisor of the WOS, looks back at her 2023 highlight

“

‘Shortly after the establishment of the Wubbo Ockels School and at the beginning of my work for the School in November 2022, Prof Ron Holz hacker presented himself. In collaboration with WOS, he was organising a high-profile, international conference and sought communications support for the event, creating and managing web pages and various graphics.

A period of frequent contact followed, many e-mails went back and forth and regular physical meetings took place. A lot of hours of work were spent on this congress. Selecting good visual material was no picnic. The approach to the issue of climate change in Asian cities was so specific that it needed to be a good fit. The website grew and grew, more and more speakers and their bios had to be added. The programme and venues were constantly updated and expanded.

The conference took place physically from 14 to 17 March 2023 in Bangkok, Thailand, as well as online, and was co-organised by Thammasat University (Thailand) and Gadjah Madah University (Indonesia) in addition to the UG.

I got to know Prof Holz hacker as a very likeable and also very dedicated man. The cooperation went smoothly and the conference was a great success. For the Wubbo Ockels School, it was a great opportunity to participate in such a large, international event in the first year of its existence.’

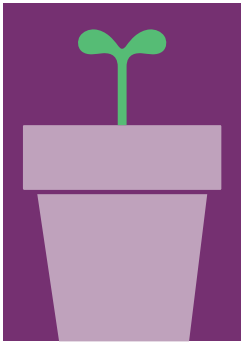
4 Regional Partners

Together with various partners, the WOS is working on energy transition and climate adaptation. In 2023, the School established a lobbying programme identifying relevant stakeholders and prioritizing engagement at regional, national and EU levels. In doing so, the WOS is building strongly on its cooperation with the New Energy Coalition, the driving force of the sustainable energy sector in the Northern Netherlands.

The Netherlands Energy Research Alliance (NERA) is another important partner for the WOS. Our school has a strategic position within the development of national energy research programmes with two WOS scientific coordinators serving as the secretary of NERA. Also, one of our coordinators is involved in setting up a committee to link politics and research. The committee is looking at how NERA can ensure that energy topics specific to the University of Groningen are included in lobbying efforts in The Hague.

Our School is also well represented in regional energy networks thanks to the WOS Director's participation in the Stichtingsraad and all the Programmaraden of the New Energy Coalition, as well as the Energy & Mobility innovation missions organised by the Municipality of Groningen. Thanks in part to the intensive cooperation with the Akkoord van Groningen in the field of hydrogen economy and climate adaptation, the WOS is regularly invited to participate in various regional (gala) events, with special mention of the Stadsdiner, Prinsjesfestival, Let's Gro, and Eurosonic Noorderslag.

In addition to collaborations with the universities of Bremen and Oldenburg, we have formed partnerships within the ENLIGHT and ARUA programmes (African Research Universities Alliance Centre of Excellence in Energy). Our main partner within the Sub-Saharan region is Stellenbosch University. The focus is mainly on the development of a hydrogen economy, with the School providing a broad perspective by bringing together different faculties and disciplines. Recently, the WOS has established a close collaboration within the Hydrogen Europe Alliance, thanks to the project Hydrogen Europe Academy (HyAcademy. EU), funded by the ERC.



For 2024, we want to increase engagement with relevant regional partners. We have positioned HVCE within the upcoming Master Plan Campussen and we want to do the same for the Participation Center and CAP.



Interview with Marieke Abbink: 'Wubbo Ockels School functions as a linking pin'



Thanks in part to the Wubbo Ockels School, the University of Groningen is increasingly collaborating with society, says Marieke Abbink, CEO of the New Energy Coalition. Opening the shutters to society is crucial because the major transitions require a collaborative approach, Abbink believes.

The New Energy Coalition (NEC) is the driving force behind the renewable energy sector in the Northern Netherlands. Marieke Abbink has been CEO of the coalition since 2020. 'Our goal is to accelerate the energy transition. In that role, even before the establishment of the Wubbo Ockels School, there was intensive cooperation with the University of Groningen. Within the university there are a tremendous number of people working on sustainability. However, in our collaboration with the university, we interacted with five different faculties. That made it quite complicated at times.'

Abbink is therefore enthusiastic about the establishment of the Schools, which she says are serving as a 'linking pin' between faculties. 'At the Schools, things come together. That makes it easier for us. We can do business directly with the university.' Last year the Schools were in a start-up phase, Abbink knows. 'Now the challenge will be to realize the integrality between faculties and research. Ultimately, it's about various disciplines working together on the same issues.'

Ivory tower

This way of working is not just about technology, the director emphasizes. The energy transition requires a broad approach. One example is the Public Participation Center.

This initiative actively involves citizens in the various transitions. 'I'm slightly exaggerating, but ten years ago the university was not involved in participation. Traditionally, the idea was: we determine the interesting research topics ourselves. The Public Participation Center illustrates how the university is stepping out of the ivory tower and taking on a new role, working more closely with society.'

The Wubbo Ockels School and NEC are also working together within the Hydrogen Valley Campus Europe. An important part of the cooperation is the Waterstof Werk programme, a continuous learning line in the Northern Netherlands region in the field of hydrogen. According to Abbink, it is a good example of the increasing cooperation between knowledge institutions. 'Cooperation between, for example, the MBO (secondary vocational education) and the university was not at all common, but for the energy transition it is necessary. Knowledge institutions, governments and companies cannot do it alone.'

Call to action

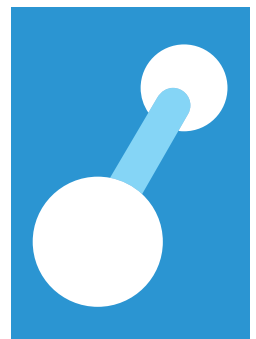
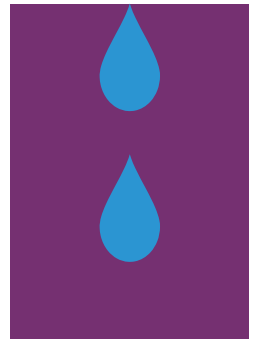
Within the new partnerships, people are quick to talk about content, Abbink argues. 'I would like to see a discussion about the collaboration itself, instead of just talking about the content. As the Northern Netherlands, we want to function as the Brainport of the energy transition, but how do you actually set up such a collaboration? Abbink sees a role for the university in this. 'It would be nice if, with the expertise that is available within the university, we conduct research into how we can cooperate even better, in order to accelerate the energy transition.'

5 Education

The mission of the WOS is to educate students of different disciplines to work together in order to ultimately help society 'choose a different path'. This translates into three main goals: students can communicate clearly about their own field; students understand the basic principles of other disciplines; and students are able to connect diverse perspectives to address complex societal issues. To achieve this, the WOS created an educational plan in 2023.

Last year, the School initiated a summerschool on Energy Challenges (with a challenge by Gasunie, and site visits to Gasunie and EnTranCe). Our School also supported a summerschool on geothermal energy (organized by Spatial Science, with a site visit to Warmtestad), as well as an online hackathon on hydrogen in collaboration with Impact Hydrogen and a government organization in South Africa.

In addition, the WOS collaborated on the Change Makers School organized by the Global Center on Adaptation as well as the minor Energy coordinated by Machiel Mulder (from the FEB faculty). Finally, we made plans for the minor Climate Change and Inequality and the minors Energy Challenges and Energy and Climate Law for non-Lawyers. All educational programs were received positively by participants. The WOS will support the development of the Climate Change and Inequality minor in 2024, and further encourage the development of interdisciplinary minors on climate adaptation and hydrogen.



In 2024 the WOS is also hosting the second edition of the 'Summer School on Energy Challenges', a new summer school in the field of Public Participation (in cooperation with the Ameland Energy Cooperative) and is supporting the 'Summer School on Geothermal Energy'.

In addition, our School supports an online hackathon on hydrogen organised by Impact Hydrogen, in cooperation with the Dutch Embassy in Delhi and research institutions in India.

Similarly, we support a hackathon organised by the New Energy Coalition on Energy transition and AI in collaboration with the Jantina Tammes School, and we participate in the organization of the first UG Impact Challenge, organised by Soapbox in collaboration with the other Schools.



Summer school Energy Challenge - an interdisciplinary approach 2023

Interview with Nienke Homan: 'Technology is only one part of the energy transition'



Former deputy Nienke Homan is well-known as an advocate for green hydrogen. Since 2022, she has been co-owner of Impact Hydrogen, together with Sharon Becker, a company that advises and coordinates projects in the field of hydrogen. With her company, Homan worked regularly with the Wubbo Ockels School over the past year. According to her, the goals of Impact Hydrogen and the School fit together seamlessly: both focus on the entire chain of the hydrogen economy.

The focus in the energy transition often lies on developing new technologies, says Homan. 'This also applies to green hydrogen. However, energy in itself is nothing, it's about what you do with it and how we organise it,' states the director of Impact Hydrogen. Homan therefore emphasises the importance of an interdisciplinary and cross-sector approach. 'All parties must be involved. That makes it much more likely to succeed.'

Many companies in the hydrogen economy are not yet used to this way of working, Homan says. 'They try to create optimal conditions and focus on bringing down the cost price. After this is successful, nothing really happens. The business plan is flawed, because technology is only part of the transition. In order to realise the energy transition, it is important that the business community, knowledge institutions and the government work together,' says Homan.

Groningen is leading the way in this development, says the director of Impact Hydrogen. In the Northern Netherlands, one ecosystem for hydrogen has been built for years, with all parties collaborating as much as possible.

According to her, partly because of the earthquakes, there is a lot of attention to the urgency of the energy transition. 'In Groningen we knew just a little earlier than the rest of the world that we cannot solve the big problems of our time in isolation.'

Hackathons and events

This interdisciplinary collaboration is also a feature of the Wubbo Ockels School, Homan knows. Over the past year, the School and Impact Hydrogen worked together regularly, including within the Hydrogen Valley Campus Europe. Together, Hydrogen Valleys and two Hydrogen Hackathons were organised. During these online hackathons, participants from all over the world gathered to work on hydrogen issues, which are mostly provided by companies and governments.'

According to Homan, it is a great example of collaboration between industry, knowledge institutions and the government. 'Many of the participants are students. This group thinks 'out of the box,' and this is exactly what we need for the energy transition. As participants work on concrete issues, the outcomes are very relevant for companies and organizations.'

Finally, Homan emphasises the importance of meetings on hydrogen for SMEs (MKB). 'Day-to-day work sometimes makes it difficult to attend meetings, even though the need is there. Therefore, my advice would be: arrange it at the end of the day, provide an online alternative and pay attention to a good invitation strategy. So far, the Wubbo Ockels School knows how to meet these requirements very well.'

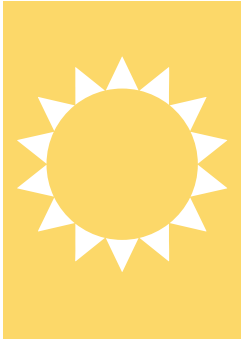
Maaïke de Heij, scientific coordinator of the WOS, looks back on her highlight of 2023



In August 2023, we organised the first summerschool ‘Energy Challenge - an interdisciplinary approach’ from the Wubbo Ockels School. The theme of the summerschool was about the social and technical challenges of a hydrogen economy, with lectures on engineering by Prof. Aravind Purushothaman Vellayani, economics by Prof. Machiel Mulder, energy law by Dr. Daisy Tempelman (Hanze University of Applied Sciences), environmental psychology by Prof. Goda Perlaviciute and spatial sciences by Prof. Christian Zuidema.

The summerschool began with a We Energy game about the energy transition. The game was a good introduction to the topic of the summerschool and at the same time it helped the participants to get to know each other, each other’s expertise and cultural background. The afternoon was followed by a visit to Gasunie, where Gasunie presented the challenges in the transition to a hydrogen economy. This was also the case the participants would work on during the week. An excursion to Entrance’s hydrogen testing facilities was also on the programme.

Beforehand, I was quite excited to wait and see who would attend this summerschool. In the end, we had a diverse group of 15 master’s students, PhD students and professionals from 12 different countries with backgrounds in engineering, energy and climate law or energy policy. Participants were enthusiastic about the interdisciplinary nature of the summerschool. They were often very appreciative of the lectures unrelated to their own discipline, which gave them new perspectives on the challenges of a hydrogen economy. The mix of the group also proved to be a success. Although we initially focused on master’s students, the inclusion of PhD students and professionals in particular proved to make for a lively discussion, which I really enjoyed.



Participants of the summerschool Energy Challenge playing the 'We Energy Game'

6 Collaboration Schools

In addition to the Wubbo Ockels School, the University of Groningen has three more Schools: the Aletta Jacobs School of Public Health, the Jantina Tammes School of Digital Society, Technology and AI and the Rudolf Agricola School for Sustainable Development. Together with the other Schools, the WOS helped to establish a shared vision for interdisciplinary research, education and impact in 2023. This vision enables the development of concrete strategies and actions in synergy with the other Schools. The WOS also hired joint staff (a communications officer, an event manager and an impact journalist).

This also translated into several joint events. In 2023, the WOS collaborated with the other Schools on the public day during the official opening week of House of Connections. In addition, for the second year, the four Schools jointly organised a major public event, the European Researchers' Night (ERN). The ERN will also return to Groningen in 2024 and 2025, thanks to a successful grant application.

For 2024, plans are in place for close cooperation with the Rudolf Agricola School on climate adaptation, with the Jantina Tammes School on the twin, green and digital transition, and with the Aletta Jacobs School on planetary health.



WOS opening House of Connections 23 juni 2023 © Chase Wang

‘Solving societal challenges gives enormous energy’

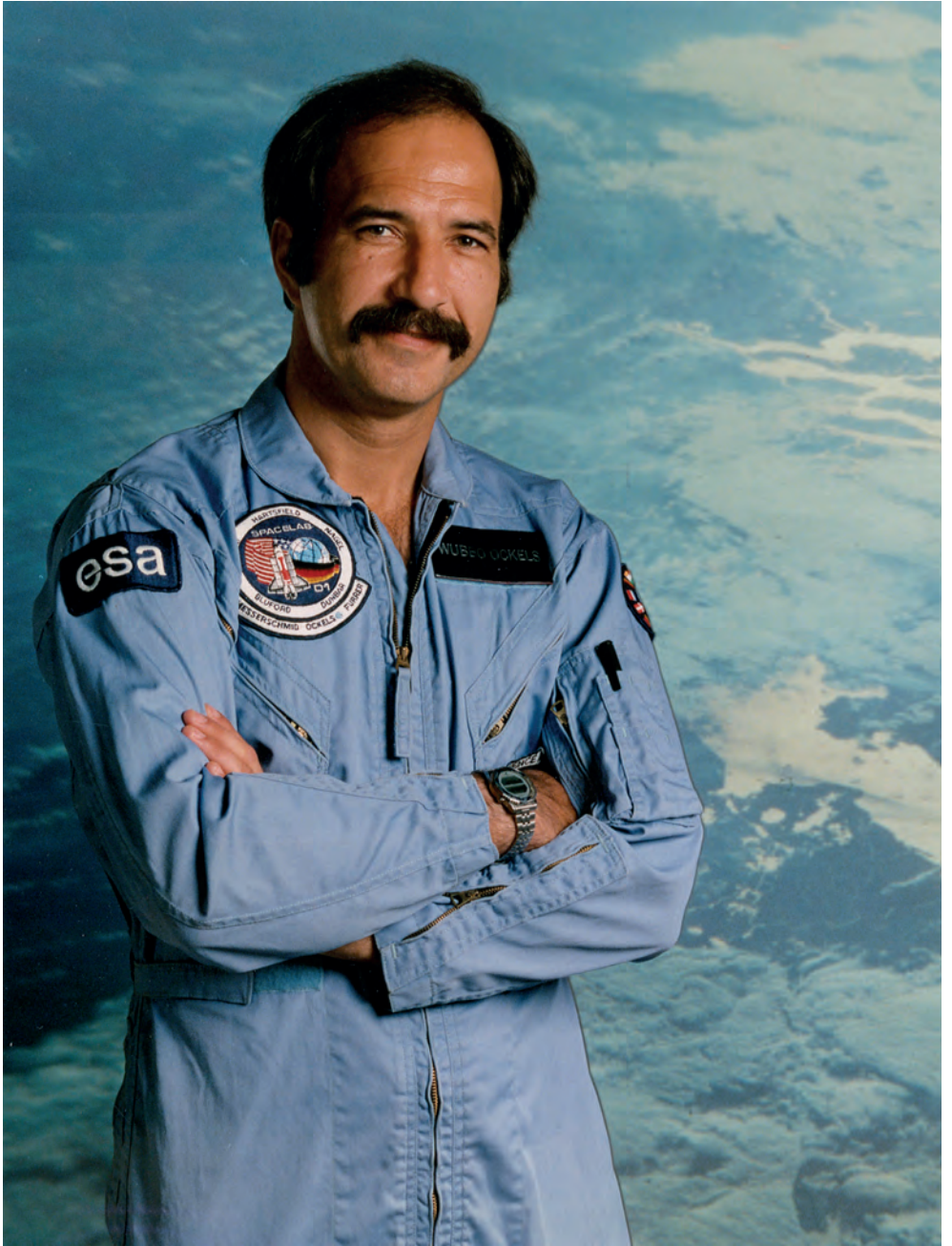
Read the third part of the interview with WOS director Lorenzo Squintani [here](#).



According to the WOS director, much is expected of the Schools. It therefore remains a challenge to balance between the high expectations for the School and the time available. ‘Solving societal challenges gives enormous energy, but at the same time the transitions are huge issues. Regional collaborations alone are not going to solve it; it takes the whole of humanity.’

According to him, it gives a constant sense of ‘work in progress’. ‘Today we are putting something wonderful in place, but tomorrow morning the alarm goes off at four o’clock for the next project. Throughout the year we are busy with activities: research proposals, events, developing projects, education, conferences, impact activities.... It’s a marathon at sprint speed. But then again, Olympic athletes also run a marathon at 20 kilometres per hour, so we can also show something,’ he says, laughing.

Above all, Squintani looks back on the School’s first year with pride, pointing to its continuous development. ‘We continue to strengthen the Schools’ teams, which is great to see. Extra manpower gives us the opportunity to do even more. I also see more and more interaction between the staff of the different Schools. This leads to creative moments when addressing challenges that are at the interface of various Schools. The House of Connections is even starting to get on the tight side because of the many activities. To me, that’s a sign of success!’



Wubbo Ockels © ESA

