



# Universities in times of corona

*How Dutch universities are working  
together and offering solutions  
during the corona crisis*

**#connectuniversitiesNL**

# Foreword

Dutch universities are actively taking steps to combat coronavirus and to continue their research, education and active role in society during this crisis. This takes many different forms, from current research to voluntary work and from disseminating digital knowledge to the donation of equipment and materials. It is not just researchers but also students who demonstrate in many areas that they can achieve a great deal by pooling their knowledge, strength and flexibility. By collaborating with companies, government organisations and other knowledge institutions in the Netherlands and with European and international partners, we show how this time is challenging people and inviting people to work together to come up with creative solutions. The speed and creativity are inspiring; it shows what drives us and what we can do with our free talents.

It only took a few weeks to move our teaching online, with over 90% online at this point. Lecturers are working extremely hard on this, and students are also adapting quickly. This situation is calling upon us all, as responsible and active participants in today's society and – certainly when it comes to the students – as shapers of the society of the future. As pioneers with passion for our profession, for each other and for society. We see scientists we are proud of, every evening on television. In the background, there are many others who are working directly or indirectly, in

collaboration with scientists all over the world, on new knowledge in this uncertain time. Together with the fourteen universities, the Netherlands Organisation for Scientific Research (NWO), the Royal Netherlands Academy of Arts and Sciences (KNAW) and many other institutions and companies, we have joined *Resilient Society*. This cocreation platform for the COVID-19 crisis allows us to work together to make this knowledge even more accessible globally.

It is hard work, and there are still significant challenges when it comes to research projects at this time of working from home and the '1.5-metre society'. There is still a great deal of uncertainty about education in the coming academic year and the introduction weeks. But as far as we are concerned, the motto in every scenario is as follows: *'On campus, if we can, online, because we can'*. This flexibility will continue to be necessary. Together, we can do it.

I am proud to present a selection of examples from research, education and other projects in the e-zine 'Universities in times of corona'. This is just a small selection. Meanwhile, the studies continue and new projects are being added every day. Let us be sure to hold on to this energy and continue to support each other.

Pieter Duisenberg  
President of the Association of Universities in the Netherlands (VSNU)  
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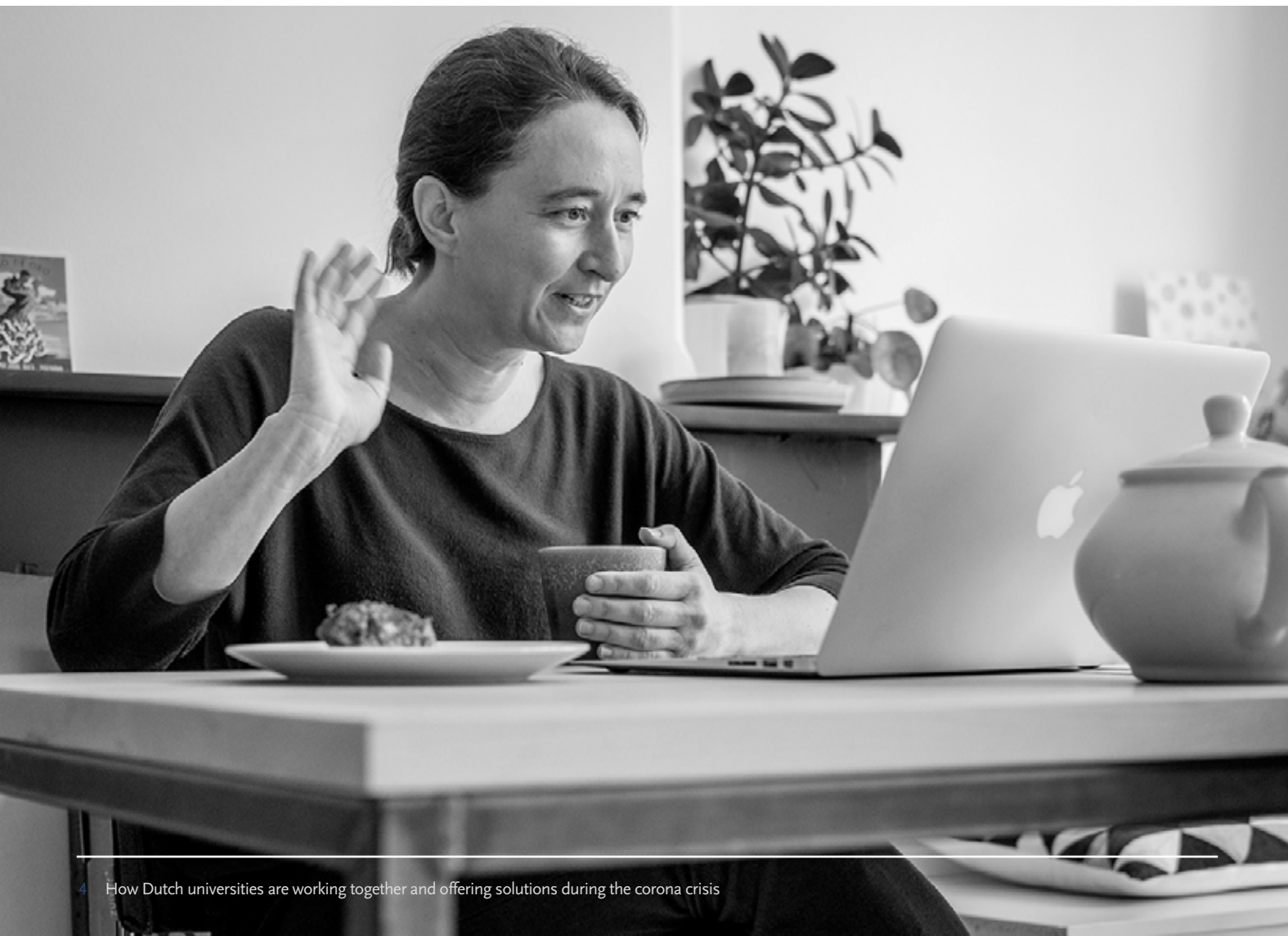
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*Donating equipment, manpower and brainpower*

# Introduction

## Projects that make all the difference

The global coronavirus outbreak is having a huge impact on our society and severely disrupting public life. The consequences are also far-reaching for universities. Since the lockdown came into force on 12 March 2020, academic research and education institutions in the Netherlands have rapidly adapted to the situation. Under various themes, this e-zine offers insight into the many distinctive projects, studies, adaptations to education and other initiatives through which universities are contributing to the joint challenge of combating the coronavirus epidemic. This provides an idea of the solutions, help and support offered by the universities. For today, and for the future.



**Understanding and combating coronavirus together**  
*Universities are closely involved in the leading international research into coronavirus (COVID-19). To understand the virus, and to contribute to laying the foundation for a treatment or vaccine. They also actively contribute to the sharing and dissemination of research data. The crisis makes it particularly important for scientific information to be available without barriers.*

The **University of Groningen** is carrying out large-scale research in the northern Netherlands into the risk factors for the coronavirus. Research data is linked to data from the Lifelines Biobank, to detect both genetic and environmental factors that help to determine whether someone will become seriously ill or develop only mild complaints.

European scientists, including several from **Maastricht University**, have established a consortium and are working with partners in China and Iran to find biomarkers for COVID-19 diagnostics. The GEFACOVID project is intended to lead to new diagnostics and treatments.

Human health is closely linked to animal health and the COVID-19 outbreak is a consequence of this.

At the Netherlands Centre for One Health, scientists from **Utrecht University** are collaborating with **University Medical Center Utrecht, Amsterdam UMC, AMC location, Leiden University, Wageningen University & Research, Radboudumc** and **Leiden University Medical Center**.

**Utrecht University** and **Erasmus MC** are conducting research into an antibody against COVID-19 in the context of One Health. This recently led to a breakthrough that could contribute to a medication for treatment.



***This research builds on the work our groups have done in the past on antibodies targeting the SARS-CoV that emerged in 2002/2003***

**Berend-Jan Bosch**  
research leader coronavirus  
Utrecht University

In this context, **Wageningen University & Research** is involved in research into the spread of disease among animals, such as at *mink farms in North Brabant*, where researchers are examining how the disease was passed from human to animal.

**Leiden University Medical Center** took the initiative to launch the *SCORE project*, in which scientists from European countries are researching treatments and ways to limit the spread of coronaviruses.

**Radboud University** is participating in *COVIDSEARCH*, a search engine for coronavirus research, and is helping researchers and doctors to quickly find up-to-date and relevant scientific sources in the multitude of studies available.

Scientists from the fields of social sciences, economics, law and humanities at the **University of Amsterdam, Vrije Universiteit Amsterdam, Radboud University, Maastricht University, University of Groningen, Open University, Wageningen University & Research,**

**Utrecht University, Tilburg University, Leiden University and Erasmus University Rotterdam** have created an expertise portal for Social Sciences and Humanities (SSH), in which they are making their knowledge of coronavirus available (the SSH COVID-19 portal).

**Wageningen Bioveterinary Research (WBVR) and Coalition for Epidemic Preparedness Innovations (CEPI)** are working intensively together to combat and prevent coronavirus. CEPI is a collaboration between public, private and philanthropic organisations that was launched in Davos in 2017 with the aim of developing vaccines to stop future epidemics. WBVR is developing preclinical models for coronavirus, allowing vaccines against the virus to be tested for efficacy and safety in humans.

**Utrecht University** supplies *epidemic models* to organisations such as the RIVM to provide information on the spread of the virus, differences between countries and the usefulness and necessity of measures to contain the spread of the virus.

Medical microbiologists from **Leiden University Medical Center**, in collaboration with a pharmaceutical company, are investigating the effect of a *new experimental vaccine* against coronavirus. Tests are being developed to demonstrate whether vaccine-induced antibodies can prevent the virus that causes COVID-19 from entering the cells. A crowdfunding campaign for this study has already raised more than 700,000 euros.

The first ten patients in the ConCoViD study were treated at the **Erasmus MC**, in collaboration with 15 other centres in the Netherlands. In this study, *blood plasma* is administered to coronavirus patients. The plasma comes from donors who have recovered from COVID-19 and produced virus-killing antibodies in their blood.

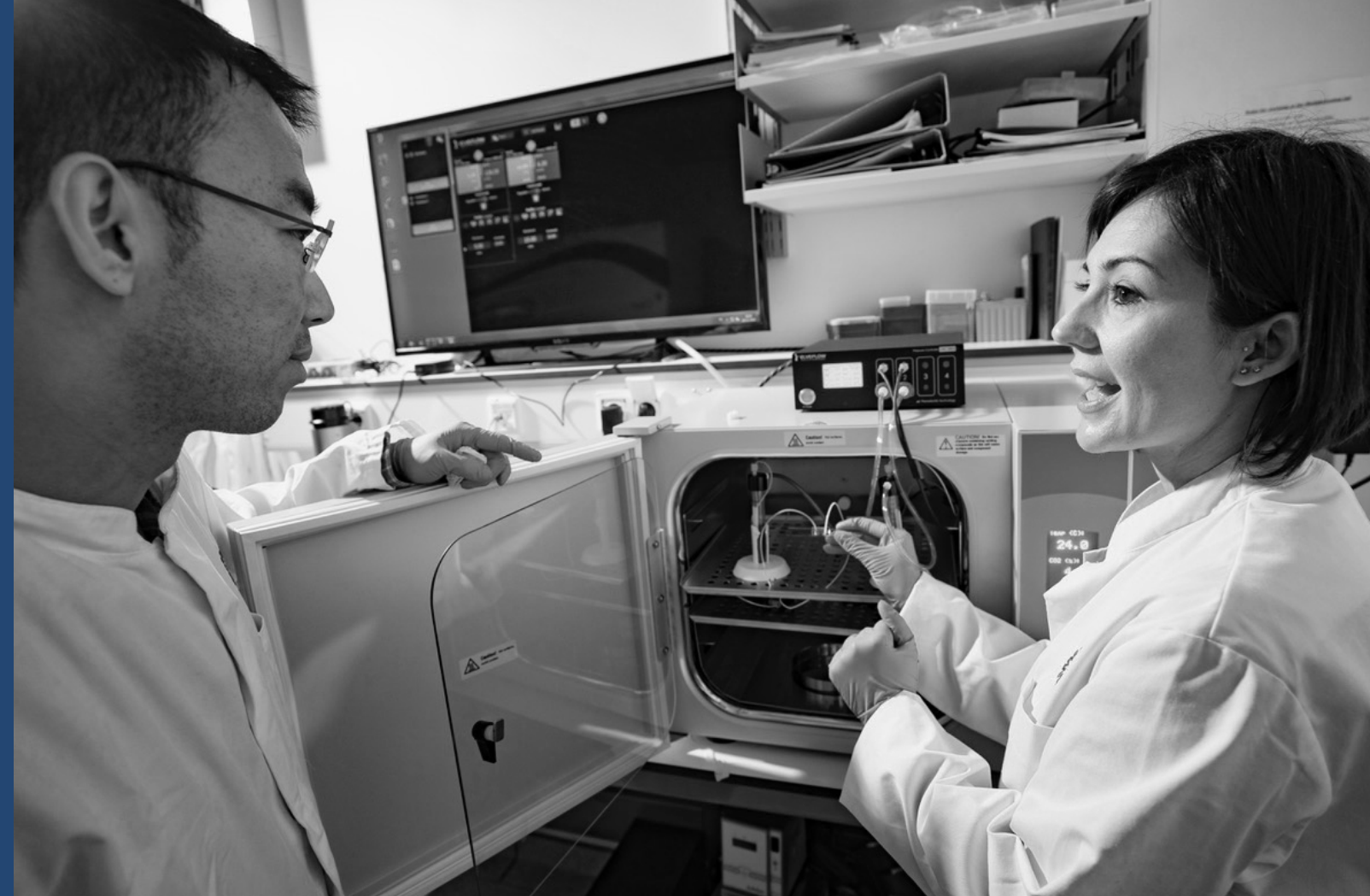
Scientists from **Leiden University, Leiden University Medical Center, Erasmus MC, Amsterdam UMC, UMC Utrecht, UMC Groningen** and **Radboudumc** are members of the Outbreak Management Team (OMT). As a team of experts, they advise the government on ways to combat the virus.

**TU Delft** is simulating the interaction between the density of the population and the percentage of infectious people present in the population in an easily understandable way.

Where does the 1.5-metre distance standard come from and what do we actually know about the droplets in our breath or in a sneeze as potential transporters of coronavirus? The **University of Twente** is investigating the *fluid physics* of sneezing, coughing, speaking and simply exhaling.

Researchers at **Universiteit Maastricht** are working on a model that uses algorithms to predict whether or not a patient infected with coronavirus will require ventilation. To this end, they are collaborating with specialists from **Amsterdam UMC** and all Dutch hospitals.

The *COVID Radar app* of **Leiden University Medical Center** maps the virus and its spread. This allows the researchers to collect data on symptoms and people's behaviour and aims to provide a better picture of how the coronavirus epidemic is developing in the region.



Scientists from the fields of computer sciences, data sciences, artificial intelligence, law, medicine, ethics and communication science sent an urgent letter to the government to ensure that citizens' fundamental rights are guaranteed when designing and implementing so-called coronavirus apps.

**Radboud University** initiated the 'uNLock consortium', which is developing an open source, non-profit application that makes it possible to issue proof of coronavirus tests with maximum privacy and security.

***The pandemic is affecting us all. It affects our lives, well-being and future***

*The coronavirus and lockdown are affecting many aspects of our lives. Which strategy would be most effective in our society and culture to defeat the virus together with the population? Dutch universities are conducting research into the various aspects of the complex situation and sharing their knowledge.*

Occupational and social psychologists at **Maastricht University** are investigating the effects of the virus and the accompanying measures on the workplace stress, health and well-being of employees and the role of teleworking.

An interdisciplinary team of scientists at **Radboud University** is keeping an eye on the well-being of staff and students. Every month, the respondents share details of their well-being, sense of meaning and fulfilment, communication and online work experience in an online questionnaire.

The **Open University** is participating in the European COVIDiSTRESS network, which examines how coronavirus affects our lives. This data is shared via an open science protocol. Any researcher who wishes to use the data for research can request this via the Center for Open Science.

People around the world are reacting differently to the pandemic. The **University of Groningen** is leading a global psychological study, PsyCorona, into the consequences of the coronavirus crisis. They want to find out whether the differences could possibly be explained by psychology and culture.

***As a psychologist,  
I find it interesting  
to see what people  
prioritise and what  
they decide to  
let go of***

**N. Pontus Leander**  
associate professor  
University of Groningen





Vulnerable elderly people, people in nursing homes, homeless people, families with young children where the home situation is not safe and people with intellectual disabilities or psychiatric problems are particularly hard hit by all the measures. The **University of Amsterdam** is researching the impact on these groups, their counsellors and informal caregivers.

International scientists including several from **Radboud University** and **Radboud UMC** are investigating psychological reactions to the coronavirus pandemic, how people adapt to adverse living conditions and stress and what factors protect them from developing stress-related mental disorders.

What is the socio-economic impact of COVID-19 on the city of Rotterdam? In their report *The city under threat (De bedreigde stad)*, **Erasmus University Rotterdam** and

**VU Amsterdam** are investigating how Rotterdam residents are dealing with the new reality and whether there is a difference between Rotterdam and national patterns.

Leadership, crisis management and policies are currently being put to the test, to say the least. **Utrecht University** has produced brief mini lectures, lasting about eight minutes, in which public administration experts from the Netherlands and abroad discuss what the coronavirus crisis means for public administration and vice versa.

It's important to sleep well. However, this is currently not always easy. 'Help each other through the coronavirus measures by sleeping better' allows people to participate in sleep research at **VU Amsterdam**. The experiences and tips are shared in a weekly newsletter and show how humans and animals are adapting to changing circumstances.

Only recently, social media was criticised for standing in the way of physical contact. In this time of social distancing, it is actually bridging a wide gap. As we now have less face-to-face contact, we are literally less aware of the disadvantages of social media, according to **Tilburg University**.

**VU Amsterdam** and **Amsterdam UMC** are investigating the problems and social distance among the elderly during the coronavirus crisis for the broadcaster Omroep Max. Based on the results, the programmes of Omroep Max will adapt their content to make older people more resistant to the virus and its effects.

The **University of Amsterdam** is conducting research into the short- and long-term effects of home schooling during the coronavirus crisis on inequality of opportunity in education.

The humanities are also of great value when it comes to gaining a better understanding of the pandemic and the impact of the measures. Among other things, **Leiden University** is examining what we can learn from quarantine measures during the medieval plague epidemics.

The platform 'Science versus Corona' aims to find an exit strategy, i.e. a policy that enables society to recover while keeping the pressure on the healthcare system to an acceptable level. Scientists from various disciplines, from epidemiology to economics and from psychology to computer science, are analysing the research data of the submitted proposals. This is an initiative of the **University of Amsterdam**.

What are the preferences of Dutch society when it comes to an exit strategy? **TU Delft** and **VU Amsterdam** are enabling citizens to outline their preferred coronavirus policy by means of serious gaming. The RIVM, the Ministry of Health, Welfare and Sport and other scientists who advise the government are incorporating these results in their recommendations to the government.

Non-coordinated regulations mean that countries are taking their own decisions to prevent the spread of coronavirus. This is leading to strange and undesirable situations in border regions. **Maastricht University** (ITEM knowledge institute) is combining the measures and the most up-to-date information affecting European border regions into a single Cross-border portal.

## Our education continues. 'On campus, if we can, online, because we can. And with a focus on the well-being of our students'

*Distance learning has been taking place since Monday, 15 March. In many cases, all lectures and tutorials, examinations and tests were converted into online variants within just one week. This has a huge impact on students, lecturers and scientists. And although working via screens is not always ideal and we have not yet found a good online replacement for everything, we are inventive and are coming a little closer to the new reality every day. There can be no doubt that our academic community benefits from sharing and meeting. As soon as we can, we will therefore be the first to embrace this. Meanwhile, we are finding new ways to work. The same applies to our concern for the well-being of our community.*

Some of the students at **Eindhoven University of Technology** can simply do practical work from home. They can log in 24/7 and manage various test setups in *Remote Labs*.

The **Academic Centre for Dentistry Amsterdam (ACTA)** is also organising online meetings for students.

In 2019, the **Open University** created six micromodules in the form of activating education. The modules are available free of charge and help lecturers to find a teaching method that suits them.

Topics include activating education, virtual classes, virtual reality, master classes, chats, blogs, online tests, serious games and research on online education.

On the Digital teaching web page, education experts from the **Open University** are sharing their knowledge in the area of online education. The page contains practical tips, tricks, tools, video lectures and (scientifically substantiated) advice for lecturers at all levels of education.

**Leiden University** contributed to a popular *online question session* by the Dutch Research Agenda (NWA), specially for children.

Now that **Utrecht University** professors are unable to attend schools, Stream the Professor allows children from groups 7 and 8 to ask questions to a professor every Wednesday morning.

For international students of **Radboud University**, the International Office has created the *Radboud Buddy Box*. This allows Dutch and international students and staff (including PhD candidates) to send each other a filled shoebox, leading to further online contact.

For practical, psychological and social support for students, lecturers and staff who are working from home, **Leiden University** developed the *Healthy University @Home website*, which offers knowledge based on scientific research. In addition, helplines have been set up for various target groups.

**Erasmus University Rotterdam** has set up the digital welfare platform *'Are you OK out there?'*. Students can find a listening ear at the 'Students4Students' helpline and create a personal well-being plan, for example. One week after launch at the end of March, the platform

had already been visited more than 14,000 times.

As well as having psychological consequences, coronavirus is also affecting our physical health. In order to help students with this, the sports centre at **Tilburg University** asked its sports lecturers to make *videos* explaining which sports the students and staff can practise at home.

The *Acceleration Plan* has enabled lecturers and support staff to find information on online education in a single location via the Online Education Helpdesk.

In collaboration with university funds, crowdfunding campaigns have been launched at various universities for students who are in acute financial distress and are unable to call upon DUO.





***We will soon need all the talents we can get, which is why I have made a donation to the student emergency fund***

Emergency fund donor

#### **Contributing to healthcare issues**

*Hospitals and university medical centres are under tremendous pressure to cope with the influx of patients while still providing them with the medical care they need under this pressure. Universities are contributing to the search for solutions and resources.*

The Maxima Medical Centre in Eindhoven is overwhelmed with questions from its staff and hardly has time to answer them. **Eindhoven University of Technology** is therefore developing a *chatbot* with learning capacity, so that frequently occurring follow-up questions can also be answered immediately.

It is possible for two patients to use a single ventilator at the same time, claim researchers at the Technical Medical Centre of the **University of Twente**. Using existing medical devices, they have come up with a *design* and tested it on different types of ventilators with a special double artificial lung. Together with **Radboudumc, Amsterdam University Medical Centers** and **Medisch Spectrum Twente**, an initial version of a protocol has been drawn up and published on the website.

Students from **Delft University of Technology, Leiden University Medical Center** and **Erasmus MC** joined forces in *OperationAIR*, an initiative that yielded a working prototype for an emergency respirator for coronavirus patients in just three weeks: the *AIRone*.

**Radboud University** and **Radboudumc** have launched the *You have a part to play (Je bent nodig)* campaign to raise funds for healthcare staff and related research. More than €75,000 has already been raised for protective equipment and projects to develop new, alternative ventilators. In *#kraakdecrisis (crack the crisis)*, they are combining initiatives for a sustainable future.

*Combining clinic and technology allowed Technical Medicine students to create an IC-worthy ventilator within just three weeks*

**Jaap Harlaar**  
Clinical Technology professor  
TU Delft



The current situation calls upon our creativity and stimulates togetherness. For example, many medical students and residents are volunteering in various places to combat the virus.

Another example is the initiative launched by the fundraising foundations of **Amsterdam UMC**

(the **VUmc Fund** and the **AMC Foundation**) with the support of the **University of Amsterdam**, **VU Amsterdam**, the **Amsterdam University Fund** and **VU Association**, the 'Coronavirus Research Fund of Amsterdam UMC'. This is bringing the entire Amsterdam academic world together in the fight against coronavirus.

**Donating equipment, manpower and brainpower**  
*There is still a shortage of tools and resources, which is leading to a wide range of solutions and inventive alternatives. We are doing everything in our power to deploy people and equipment where they are needed. This is the result. A selection:*

With *Student for the City* (*Student voor Stad*), students from the **University of Groningen** have launched an initiative that aims to connect as many students as possible with people or organisations that are most in need of help. Over 900 students applied. When the head, heart and hands work together, creative solutions can be found for the problems of today and tomorrow.

The Greenhouse Horticulture business unit of **Wageningen University & Research** has donated its entire stock of protective clothing to the Red Cross, including overalls, gowns, gloves and overshoes.

As an international student in the Netherlands, how can you keep up to date with the impact of the coronavirus crisis in the Netherlands? A student at **Utrecht University** noticed that it was quite difficult for her international fellow students.

Within just one week, what began as a friendly deed for fellow students grew into a *hit* on Facebook.

A university staff member asked all **Utrecht University** colleagues whether they would like to become language buddies for international students.

Residents of a care or nursing home can easily stay in contact with their family thanks to the *'Beppie'* app. Beppie converts a postcard written by the elderly in an app on the smartphone. It also works the other way around. This is a graduation project by a student of the **University of Twente**.



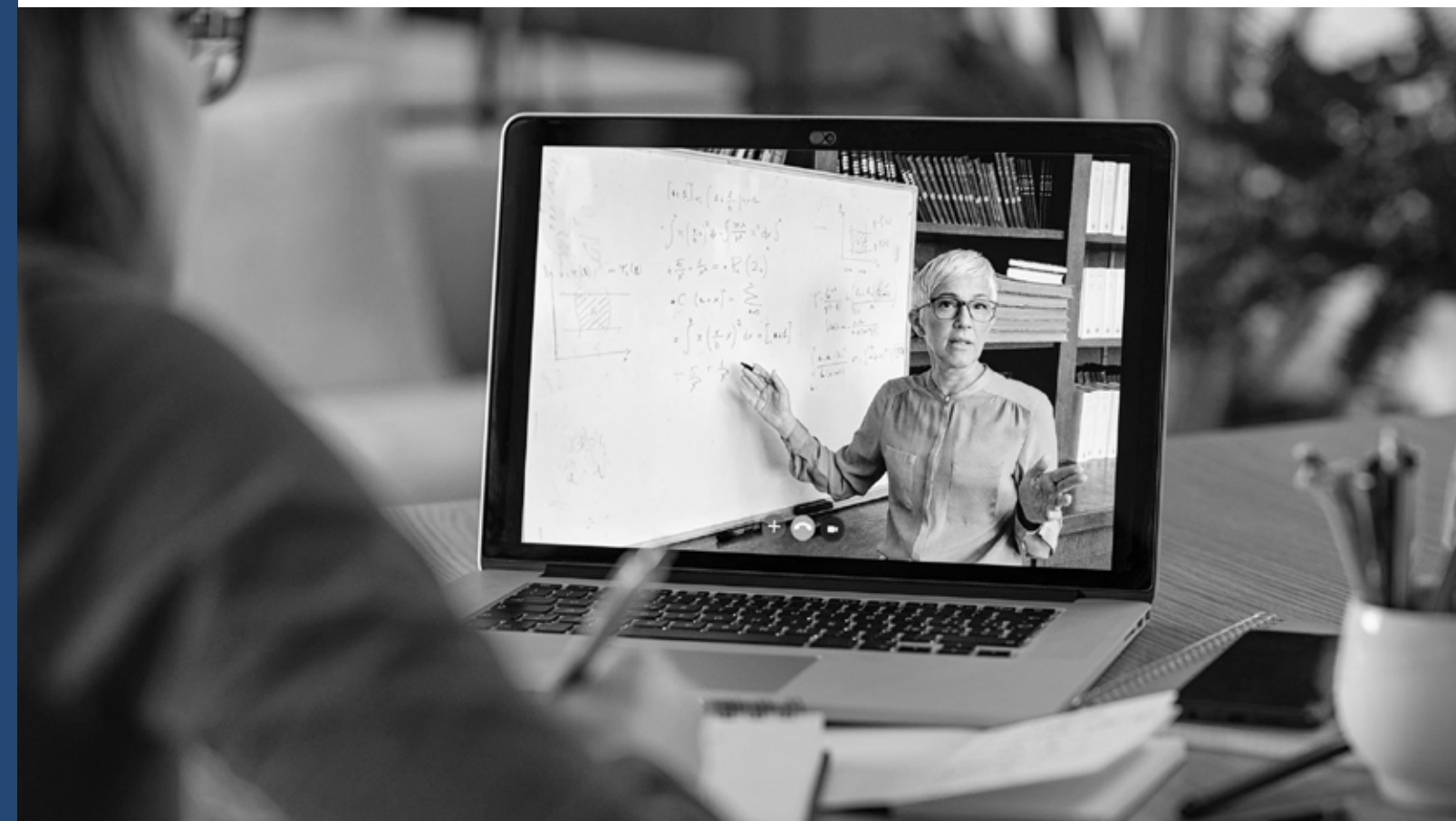
A linguist from **Radboud University** made a virtue of necessity and, together with the editorial team of the University of the Netherlands, launched a channel for so-called *Quarantine lectures on YouTube*. This platform allows researchers to post lectures that they normally would have given in a lecture room or parts thereof online.

The site of the **University of the Netherlands** features stories by academics about the coronavirus and how it is affecting our lives.

**TU/e** innovation Space has launched the *platform* TU/E against COVID-19,

which allows the university to take on a brokerage role with the aim of linking the inner world of the **Eindhoven University of Technology** (particularly students and student teams) to the outside world.

Students of **Erasmus University Rotterdam** launched *Markt010*, an initiative to help market traders sell their goods online. The boat shed of the Skadi Rotterdam rowing association has been converted into a market hall from which people can pick up goods. Over 1,200 cheese and vegetable packages have already been sold.





***The market is  
the beating heart  
of this city.  
With Markt010,  
we are getting  
this heart beating  
again during the  
coronavirus crisis***

Students of Erasmus University Rotterdam

Students from the **University of Twente** came up with a solution to coronavirus-related challenges during the Pan-European hackathon. The app [\*mentor.me\*](#) connects students with mentors who can help them with studying at home and homework. The app won the students a prize.

Every day, students at **Tilburg University** volunteer for the Serve the City project *ONS Soepje*. They cook and deliver meals to people who are

not allowed to leave the house and to people in vital professions.

*Students* at **Maastricht University** have set up a babysitting service for healthcare workers who have small children at home, and law students are providing free legal advice to small entrepreneurs and employees on the consequences of the coronavirus crisis. *Connect & Support* is a platform that connects people online.



# VSNU

The Dutch universities stand for high-quality academic education and excellent research, through which they make valuable contributions to the welfare and well-being of the Netherlands, and to challenges worldwide. In the VSNU context, the fourteen Dutch universities demonstrate their common ambitions and create the preconditions required to achieve them. The corona crisis is a major challenge for all universities, regarding research, education and innovation. The universities work together and offer solutions. They cooperate with each other, between different disciplines, with companies, government and other knowledge partners, and in their European and international university networks. Only together can we act effectively in this global crisis. Together, we can do it.

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