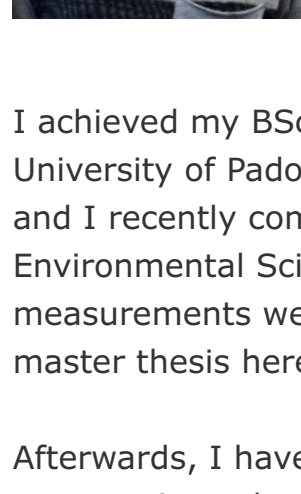




ESRIG newsletter | November 2020

Hello ESRIG member and interested partners! This newsletter is meant to inform you about various topics related to ESRIG, such as: new esrig members, latest publications and media coverage, relevant calls, and other interesting topics. Enjoy the read!

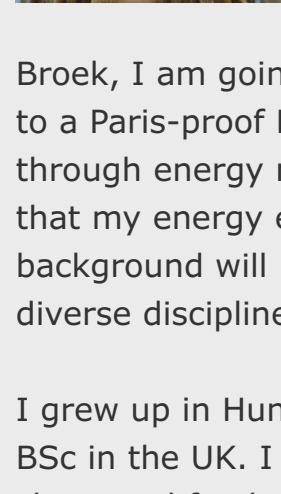
Welcoming new members



Hi, I am [Alessandro](#) and I have joined the [CIO group](#) for a PhD project which will investigate how to improve gross carbon flux estimates with AirCore carbonyl sulfide (COS) measurements.

I achieved my BSc in Chemistry at the University of Padova (my hometown, in Italy) and I recently completed the MSc Energy and Environmental Sciences at RUG. COS measurements were the topic of my first master thesis here in Groningen.

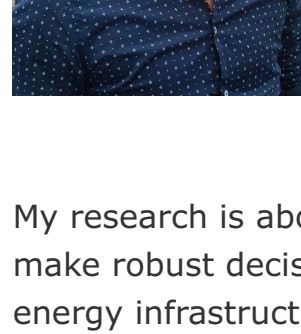
Afterwards, I have been given the opportunity to keep contributing to this project and further investigating this trace gas. I am looking forward to starting this new challenge!



I am [Rebeka](#), a new PhD student at [IREES](#). Many of you may know me, as I have just graduated from MSc EES.

Under the supervision of Machteld van den Broek, I am going to investigate pathways to a Paris-proof European power system, through energy modelling. I am hoping that my energy engineering and EES background will be a good addition to the diverse disciplines of IREES.

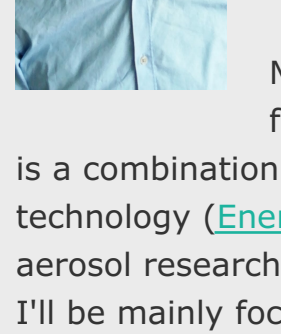
I grew up in Hungary and I obtained my BSc in the UK. I have a great passion for chess and food, thus I am always open to a lunch break chess game :)



My name is [Sybren Couwenberg](#) and I started with my PhD research in September. I am from Groningen and studied the bachelor physics and master energy and environmental sciences here at the university.

My research is about developing a method to make robust decisions for an integrated energy infrastructure. This research will be a collaboration between [IREES](#) and the [Gasunie](#), so I will be working at both locations.

I am looking forward to work in this interdisciplinary field on energy related problems!



Hi, I'm [Stijn van Rijn](#), 26 years old and I just started my PhD. I did both my bachelor (Physics) and master (EES) in Groningen as well, so some people may already know me.

My research is about soot formation in gas flares. It is a combination of combustion technology ([Energy Conversion](#)) and aerosol research ([CIO](#)). The first year(s) I'll be mainly focusing on the combustion technology, followed by aerosol research later. I'm excited to be part of ESRIG again, now as an employee.

I am looking forward to work in this interdisciplinary field on energy related problems!

New Research Group at ESRIG

Probably most of you already heard it, since September 1, the research group *Nuclear Energy* joined our institute. This means that ESRIG now consist of 6 research groups:

- [Energy Conversion](#) (merged with Combustion Technology)
- [Centre for Isotope Research | CIO](#)
- [Integrated Research on Energy, Environment and Society | IREES](#) (former IVEM and SSG)
- [Geo-Energy](#)
- [Ocean Ecosystems](#)
- and the new group Nuclear Energy, chaired by [Prof. Nasser Kalantar Nayestanaki](#).

The members of Nuclear Energy are former members of KVI-CART and they are busy shaping their research agenda for the coming years. The group is situated at Zernikelaan 25. More information about this group will be launched on their new website soon. The members can be found on the [people and contact page](#) of ESRIG. Secretary of the group: [R. \(Lineke\) Koops](#).

New projects



Netherlands Polar Programme finances two PhD-positions for ESRIG climate researcher Richard Bintanja

In the policy-driven NPP call of 2019/2020 only large consortia could submit proposals. In total, four proposals were selected for funding. ESRIG climate researcher [Richard Bintanja](#) is involved in two of these projects. The first is the "Dutch Polar Climate and Cryosphere Exchange Consortium" (led by IMAU/UU) in which changes in (future) sea level are quantified and explained by using a combination of models and observations. As part of this consortium, Richard Bintanja has received funding for a PhD-student to assess the role of receding sea ice (stronger local warming and enhanced availability of moisture) for the surface mass balance of the ice sheets of Greenland and Antarctica by using state-of-the-art global climate models, in close cooperation with [KNMI](#). The question is how sea ice retreat is modulating the changes and variability in drivers of ice sheet changes.

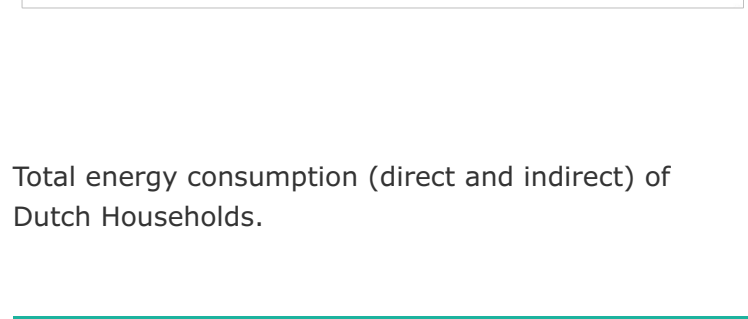
The second successful proposal "Vulnerability of Arctic Migratory Birds to Rapid Arctic Climate Change" (led by WUR) aims to infer and quantify the effects of changing climate (extremes) on the behaviour of Arctic migratory birds. As part of this consortium, Richard Bintanja receives funding for a PhD-student to quantify changing climate conditions that are relevant for Arctic birds (such as wind patterns for migration, snow cover and vegetation changes for breeding range) by using state-of-the-art global climate models in close cooperation with [KNMI](#), the [Arctic Center](#) (RUG), and [WUR](#). Another important issue is how the uncertainties in climate projections translate into uncertainties associated with drivers of bird behaviour.

Environmental pressure of consumption patterns

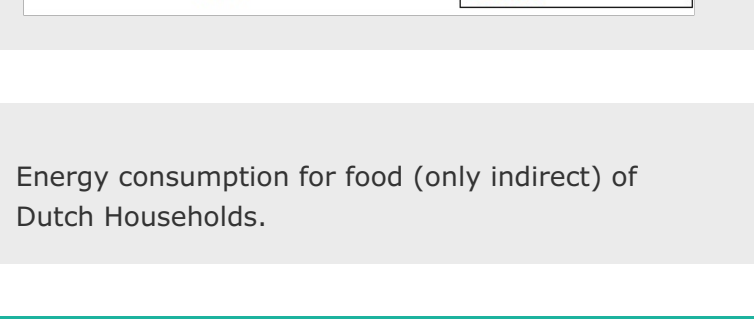
Recently a new project has started which has a high Déjà vu feeling for me ([René Benders](#)). The project is about the environmental load of Dutch household consumption and is financed by the Ministry of Infrastructure and water management. The goals is to develop a tool with which the energy consumption, greenhouse gas emissions and several other emissions as well as land use of households are determined. Besides this the tool should be able to give a good indication of the material use present in the consumption items. The tool must be able to determine the total environmental pressure of households but also be able to perform on a detail level: comparing different products with the same function.

The Déjà vu feeling is caused by the presence of content and persons involved in research on household consumer impact in the nineties of the previous century. In that decade the calculation model (EAP: Environmental Analysis Program) to determine these so-called indirect energy requirements end indirect emissions was developed by Harry Wilting and other researchers from two other Universities. Among others Rixt Kok of our University (IVEM) was involved in those days and she participates in the present project too. The tool will be used by PBL (Netherlands Environmental assessment agency) and Milieu Centraal (a consumer information center for sustainable practices and tips). From PBL two researchers are involved: Harry Wilting and Kees Vringer (one of researchers of Utrecht University involved in the project in the nineties). Around 2005 we had a big update of the EAP software package were [Harry Wilting](#) and [Kees Vringer](#) o.a., were participating too.

Besides Rixt Kok and me, [Ahmed Younis](#) and [Arjan Zuidema](#) are also part of the team. The project need to be finished in January 2021.



Total energy consumption (direct and indirect) of Dutch Households.



Energy consumption for food (only indirect) of Dutch Households.

ESRIG'S media wall



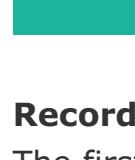
Reusing tableware can reduce waste from online food deliveries | Interview with Yuli Shan by Science Linx

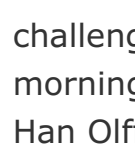
In China, approximately 10 billion online food orders were served to over 400 million customers in 2018. All of these orders came in single-use plastic packaging, with single-use plastic tableware. Together with colleagues from China and the UK, [Yuli Shan](#), an environmental scientist at the University of Groningen, found that reusable tableware can substantially reduce packaging waste and life cycle environmental emissions. The analysis was published in the journal Nature Food on 15 September.

Lifestyles in China are changing rapidly, and ordering food online is an example. However, those billions of delivery meals produce an enormous amount of plastic waste from packaging, but also from food containers and cutlery; in one year, some 7.3 billion sets of single-use tableware accompany the food. Around one-third of the 553 kilotons of municipal solid waste that is generated each day comes from packaging. That is why a group of scientists analysed whether using paper alternatives or reusable tableware could reduce the plastic waste and associated life cycle emissions [> read full article](#).

PhD defenses

In the month October two PhD students, successfully defended their theses. Congratulations Dr. Likumahua and Dr. Vaca Jiménez.

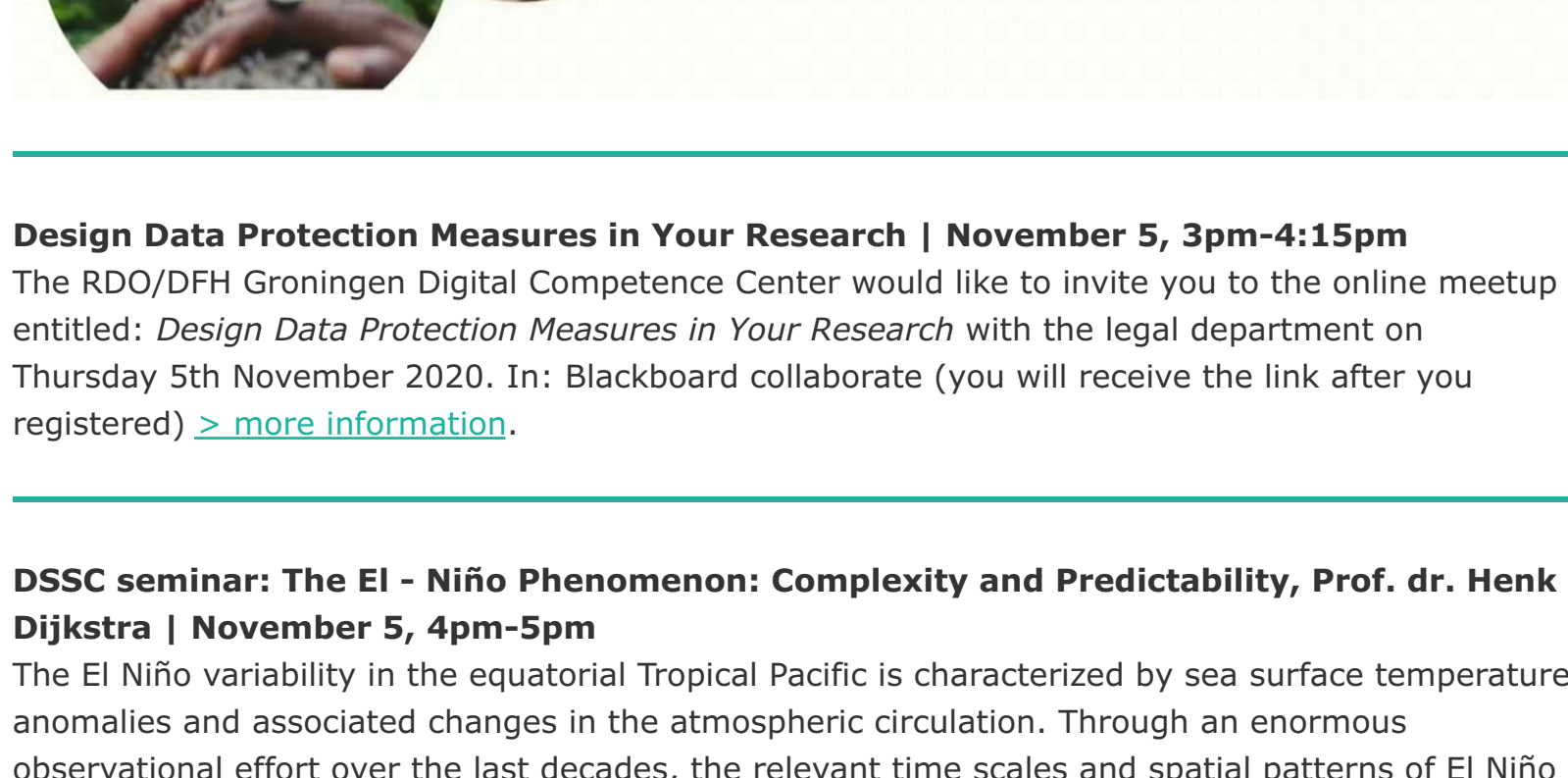
 Sem Likumahua, PhD at Ocean Ecosystems, with his thesis "[Hidden threats revealed; Revealing potentially toxic phytoplankton species and their associated toxins in Ambon Bay, Eastern Indonesia](#)".

 Santiago Vaca Jiménez, PhD at IREES, with his thesis: "[The dynamics of the Water-Electricity Nexus: How water availability affects electricity generation and its water consumption](#)".

NICE to know

Recording of Sustainable Society Symposium

The first annual SuSo Symposium took place on Tuesday 6 October 2020. Pressing societal challenges were discussed, with special attention for the potential future role of universities. The morning kicked off with a digital keynote of Prof. dr. Will Steffen. Next, academic experts Prof. dr. Han Olf and Dr. Rieneke Slager shared their UG perspectives on emerging societal challenges. Finally, colleagues explored new research agendas during a panel discussion.



Emerging societal challenges, new research agenda's?

SuSo Symposium 2020

Design Data Protection Measures in Your Research | November 5, 3pm-4:15pm
The RDO/DFH Groningen Digital Competence Center would like to invite you to the online meet-up entitled: *Design Data Protection Measures in Your Research* with the legal department on Thursday 5th November 2020. In: Blackboard collaborate (you will receive the link after you registered) [> more information](#).

DSSC seminar: The El - Niño Phenomenon: Complexity and Predictability, Prof. dr. Henk Dijkstra | November 5, 4pm-5pm
The El Niño variability in the equatorial Tropical Pacific is characterized by sea surface temperature anomalies and associated changes in the atmospheric circulation. Through an enormous observational effort over the last decades, the relevant time scales and spatial patterns of El Niño are now well-documented. In the meantime, a hierarchy of models has been developed to understand the physics of this phenomenon and to make predictions of future El Niño events. In this presentation a complex systems science oriented approach to El Niño will be given with a focus on (i) the robust and relevant details of the observations, (ii) the current state of the theory of the variability and (iii) the limiting factors of (and new approaches to improve) the skill of model forecasts. [Join meeting via BlueJeans](#)

Interactive webinar: Redesign, enrich and transform your course with open educational resources | November 17
Information specialists from the University of Groningen Library and didactic experts from Education Support & Innovation will host a webinar focused on helping you redesign and enrich your course (in whole or in part) with open materials [> more information](#).

Call for applications to publish first UG open textbook
Are you interested in publishing your own open textbook that can be easily shared, reused and updated? Do you think your academic field is in need of an innovative learner-centered resource that should be openly and freely available to all students? The University of Groningen Library (UB) and the University of Groningen Press (UGP) are looking for teachers willing to participate in a pilot initiative on publishing our University's first open textbook [> more information](#).

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ESRIG

Ocean Ecosystems

IREES

ECHOES project (CIO)

Deze e-mail is verzonden aan [{{email}}](#). Als u geen nieuwsbrief meer wilt ontvangen, kunt u zich [hier afmelden](#). • U kunt ook uw [gegevens inzien en wijzigen](#). • Voor een goede ontvangst voegt u a.j.huizinga@rug.nl toe aan uw adresboek.

