



## ESRIG newsletter | February 2021

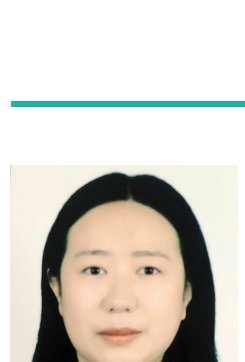
Hello ESRIG member and interested partners! This newsletter is meant to inform you about various topics relevant to ESRIG, such as: new ESRIG members, latest publications and media coverage, relevant calls, and other interesting topics. Enjoy the read!

### Welcoming new members



Hello everyone, my name is [Johannes Miocic](#) and I have started as Assistant Professor for [Geo-Energy](#) at the ESRIG in January. I have a PhD in Geology from the University of Edinburgh and have previously worked as Assistant Professor for Sedimentology and Quaternary Research at the University of Freiburg.

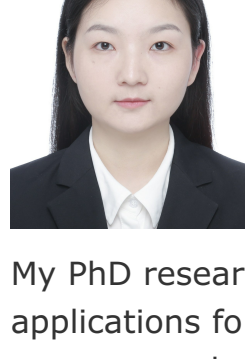
My research is focusing on (1) how fluids such as CO<sub>2</sub> or hydrogen can be securely stored in subsurface rocks, (2) how geothermal energy can be utilized and integrated into sustainable energy systems, and (3) improving the understanding of processes occurring within reservoirs during fluid production and injection. I believe that the subsurface can continue to play a vital role in the transition to sustainable energy systems of the future and am looking forward to fruitful discussions and collaboration in Groningen.



My name is [Lieke](#) and at the start of this year I have joined the [Ocean Ecosystems group](#) as a PhD candidate under supervision of Richard Bintanja. Together with the Royal Netherlands Meteorological Institute (KNMI) I will be researching the impact of climate variability and extremes on the European energy system.

I have a background in Mechanical Engineering and Sustainable Energy Technologies (MSc) and worked for a period as researcher at the knowledge institute Deltares on topics in the water-energy field such as: aquathermal energy, district-heating networks and aquifer thermal energy storage systems. I am very excited to be expanding into the field of climate modelling.

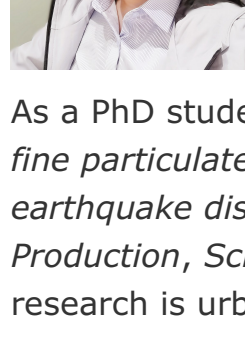
Due to the multi-disciplinary nature of the project I am hoping to be working with colleagues from both OE and [IREES](#). I am always open for knowledge sharing and research collaboration, so if you feel I have knowledge/contacts that are useful to you, you have interesting information for me or you're just interested in my topic please feel free to contact me for a (digital) cup of coffee. I hope to meet all of you soon!



Hello everyone! My name is [Yanxian Li](#) and I have joined the [Integrated Research on Energy, Environment and Society \(IREES\)](#) since January 2021. My background is in Environmental Science (BSc and MSc) and have participated in research projects related to urban ecology and resource sustainability. My master thesis has assessed the material consumption status of China's urban ecological systems from a perspective of urban metabolism.

The research theme of the research group, bio-based economy and circular resource system, is in correlation with my interests in the raw material resource management and sustainability of urban systems. Currently I am planning to assess the material consumption induced by economic activities of cities and to explore the resource inter-connections of sectors or cities among the supply chains.

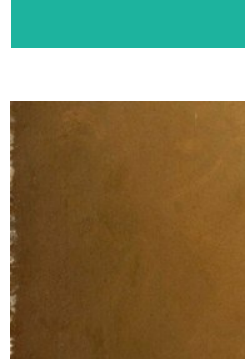
I feel so happy and lucky to join in this wonderful group and I hope to have more conversations with everyone soon.



Hello, everyone! My name is [Yuru Guan](#). I received a Master degree in Environmental Engineering from North China Electric Power University last year, and the research work mainly focused on the environmental pollutant metabolism analysis based on environmentally-extend input-output framework. Currently, I join the [Integrated Research on Energy, Environment and Society \(IREES\)](#) group as a PhD student.

My PhD research topic will focus on city-level carbon emission accounting methodology and applications for European cities. City-level carbon emissions vary significantly due to differences in resource endowments, energy mix, technologies, and economic structures, and inter-regional trade. It is expected that the results of my study will provide scientific foundations for the formulation of desired sub-national carbon mitigation policy.

I am very excited to be a member of this group and look forward to meeting you all!



I am [Chao Zhong](#), a guest PhD student at [Integrated Research on Energy, Environment and Society \(IREES\)](#). My research fields include population resources and environmental economics. I have participated in some projects of Natural Science Foundation of China, such as *trade partner, commodity structure and environmental pollution*, etc.

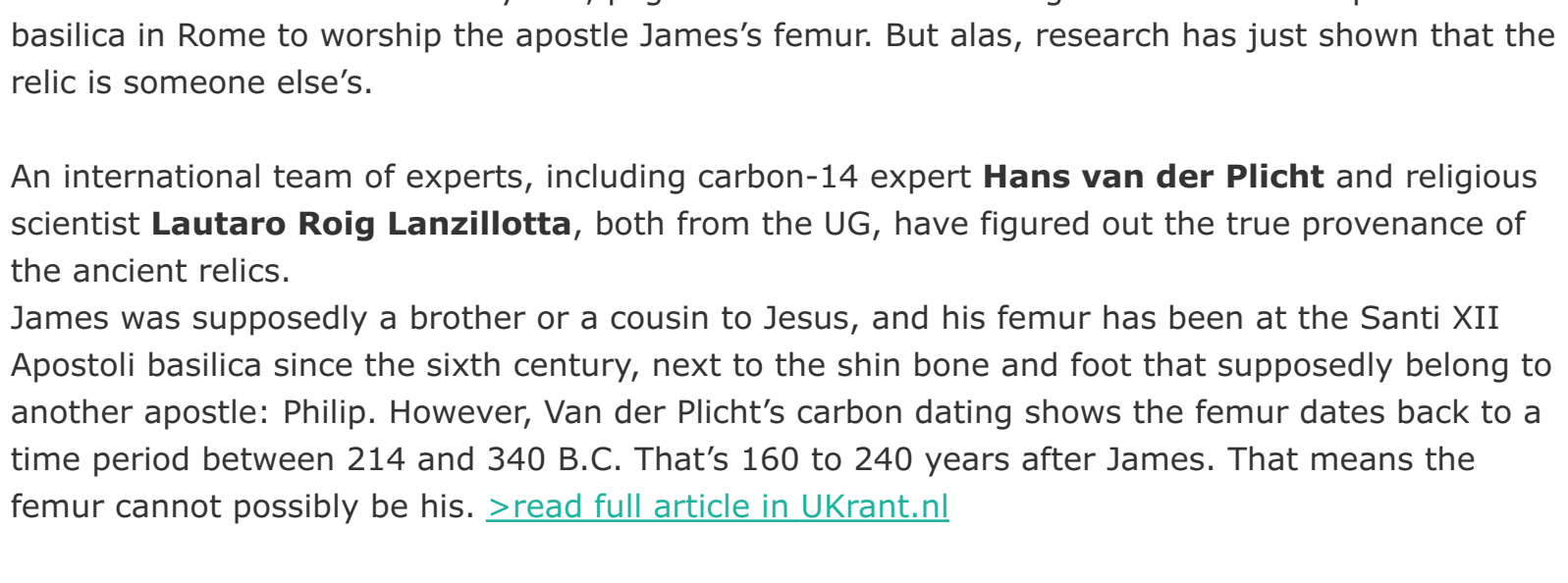
As a PhD student, I also hosted or participated in some student research projects, such as *Global fine particulate matter pollution: monitoring, causes and effects, is there a "butterfly effect" in earthquake disasters*, etc. In addition, I have published more than 10 papers in *Journal of Cleaner Production*, *Science of the Total Environment*, and *Management Review*, etc. Currently, my research is urban transportation infrastructure and pollution emissions.

I look forward to working with everyone to make progress together.

### We would also like to welcome:

- [A. \(Andrea\) Scifo](#), started January 1st, next to his PhD position, as an AMS operator at [Centre for Isotope Research \(CIO\)](#).
- [R.A. \(Roel\) Schellekens](#), started February 1st as an AMS technician/operator at [Centre for Isotope Research \(CIO\)](#).

## ESRIG'S media wall



### Holy femur does not belong to apostle James

For more than fifteen hundred years, pilgrims have been travelling to the Santi XII Apostili basilica in Rome to worship the apostle James's femur. But alas, research has just shown that the relic is someone else's.

An international team of experts, including carbon-14 expert [Hans van der Plicht](#) and religious scientist [Lautaro Roig Lanzillotta](#), both from the UG, have figured out the true provenance of the ancient relics.

James was supposedly a brother or a cousin to Jesus, and his femur has been at the Santi XII Apostoli basilica since the sixth century, next to the shin bone and foot that supposedly belong to another apostle: Philip. However, Van der Plicht's carbon dating shows the femur dates back to a time period between 214 and 340 B.C. That's 160 to 240 years after James. That means the femur cannot possibly be his. [>read full article in UKrant.nl](#)

More about this topic:

- [FSE news section](#)
- [Research article](#) by em. prof. J. van der Plicht et al.

### UG connects: AI & energy

Artificial Intelligence (AI) is a hot topic in today's research field. During an exclusive online event, hosted by the Dutch AI Coalition last November, various information sessions and discussion panels took place to discuss the latest insights on the topic of AI related to energy and sustainability. Various companies, researchers, entrepreneurs and representatives from the government were present at the event.

During the session 'Meet the Researcher' a few of UG's researchers were invited to pitch their research within the theme of AI & Energy. The participants of the event had the chance to meet these researchers, discuss the newest insights from research and explore possible collaborations. The researchers presented their innovative research in short video pitches.

**Pitch by | [dr. Franco Ruzzenenti](#) (IREES).**

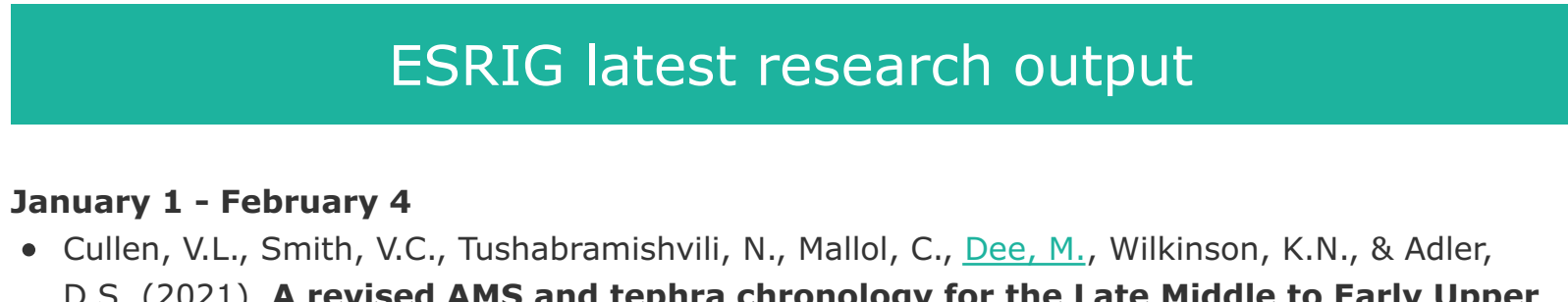
**Research | The future of energy markets.** Looking at new scenarios in which blockchain technology and artificial intelligence can contribute to.

See [all pitches](#) on the Society/business website.

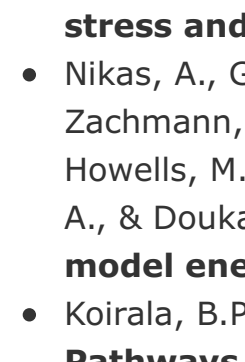


### Insights from the Intergovernmental Panel on Climate Change

At the IPCC-event, on 22 January 2021, [Prof. Klaus Huback](#) (chair of [IREES](#)) and other lead authors of IPCC reports, have been invited to deliver statements on the latest scientific insights on climate change impacts for different regions in the World. The focus of the event was on solutions and in particular on innovative approaches for accelerated and scaled up implementation of these solutions for the benefit of vulnerable communities around the globe. You can replay the IPCC event in the video below.



## PhD ceremonies



On February 22 at 14:30 hrs, Edgar Yanez Angarita, PhD student at [IREES](#), will defend his theses [Greenhouse gas mitigation strategies for the oil industry - bottom-up system analysis on the transition of the Colombian oil production and refining sector](#).

The PhD ceremonies can be followed via a [live stream](#).

## ESRIG latest research output

### January 1 - February 4

- Cullen, V.L., Smith, V.C., Tushabramishvili, N., Mallol, C., [Dee, M.](#), Wilkinson, K.N., & Adler, D.S. (2021). **A revised AMS and tephra chronology for the Late Middle to Early Upper Paleolithic occupations of Ortvale Klde, Republic of Georgia.** *Journal of Human Evolution*, 151, [102908]. [DOI](#).
- [Palstra, S.W.L.](#), Wallinga, J., Veeven, W., Schoorl, J.M., van den Berg, M., & [van der Plicht, J.](#) (2021). **Cross-comparison of last glacial radiocarbon and OSL ages using periglacial fan deposits.** *Quaternary Geochronology*, 61,101128]. [DOI](#).
- [Wang, D.](#), [Hubacek, K.](#), [Shan, Y.](#), [Gerbens-Leenes, P.W.](#), & Liu, J. (2021). **A review of water stress and water footprint accounting.** *Water (Switzerland)*, 13(2), [201]. [DOI](#).
- Heinemann, N., van den Berg, M., Küchelmann, H.C., Schepers, M., Leusink, E.H. P., Cornelder, B.A., Kruijer, J.D.H., & [Dee, M.W.](#) (2021). **Human-environment interactions at a short-lived Arctic mine and the long-term response of the local tundra vegetation.** *Polar Record*, 57, [e3]. [DOI](#).
- Guzman, P., [Gerbens-Leenes, P.W.](#), & [Vaca Jiménez, S.](#) (2021). **The water, energy, and land footprint of tilapia aquaculture in Mexico, a comparison of the footprints of fish and meat.** *Journal of resources, Conservation and Recycling*, 165,105224]. [DOI](#).
- Das, K., [Gerbens-Leenes, P.W.](#), [Nonhebel, S.](#), (2021). **The water footprint of food and cooking fuel in a developing country, The case study of self sufficient rural India.** *Journal of Cleaner Production* 281, [125255]. [DOI](#).
- [Sivai, A.W.](#), [Gerbens-Leenes, P.W.](#), [Nonhebel, S.](#), (2021). **Energy and carbon footprints for irrigation water in the lower Indus basin in Pakistan, comparing water supply by gravity fed canal networks and groundwater pumping.** *Journal of Cleaner Production*, 286, [125489]. [DOI](#).

## NICE to know



### Thursday 11 February 2021 | Kenniscaf  Groningen

**Afkijken van de Natuur | --- only in Dutch ---**  
Miljarden jaren van evolutie hebben heel wat slimme oplossingen opgeleverd voor problemen waar wetenschappers en ontwerpers nu tegenaan lopen. Niet zo gek dus dat zij de natuur gebruiken als inspiratiebron bij het ontwikkelen van nieuwe materialen. Dit doen ze door bijvoorbeeld chemische functies uit biologische systemen te kopi ren; zo diende het hechtingsstelsel van een mossel als voorbeeld voor waterbestendige lijm. Ook voor veel technologische problemen kunnen we spieken bij de natuur. Zo kijken we naar het vlieggedrag van vogels en het zwemgedrag van vissen voor toepassingen in de luchtvaart of op zee. Zijn al deze innovatieve oplossingen die we zo kunnen afkijken te mooi om waar te zijn? Of zouden we juist meer moeten kijken naar de natuur voor inspiratie? Wat zijn de valkuilen bij het imiteren van natuurlijke uitvindingen?

In dit Kenniscaf  spreekt Lemke Kraan met Marleen Kamperman, hoogleraar aan de RUG gespecialiseerd in materiaalkunde en polymerchemie, zij gebruikt de natuur als inspiratiebron bij het ontwikkelen van nieuwe materialen; [Elyze Stamhuis](#), universitair hoofddocent Experimentele Marine Zoology & Biomimetica aan de RUG, als onderzoeker heeft hij zich gespecialiseerd in biofysica van zeezwemmende vissen en vliegende vogels; en Tjeerd Veenhoven, industrieel ontwerper, in zijn studio in Groningen ontwerpt hij met zijn team waardeketens van ruwe materialen uit de natuur tot duurzame eindproducten. [> meer informatie en tickets via Studium Generale Groningen](#)

Illustratie: Yvette Compajen

### Invitation to SciVal webinars

Together with Elsevier, the University of Groningen Library, regularly organize webinars about research analytics for (young) researchers. An overview of the [upcoming webinars](#) is available on the Library website.

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