



REPORT

# RESEARCH STRATEGY DEPARTMENT OF ENVIRONMENTAL SCIENCES

LEARNING AND INNOVATION FOR  
RESILIENT SOCIAL-ECOLOGICAL  
SYSTEMS (LIRS<sup>5</sup>)

2020-2025

## **Learning and innovation for Resilient Social-Ecological Systems (LIRS<sup>5</sup>)**

- 1 The Department 1
- 2 Focus on Learning & Innovation for Resilient Social-ecological Systems (LIRS<sup>5</sup>) 1
- 3 Research emphases 3
- 4 Organization and Policies 3
- 5 Networks 4
- 6 Projects 5
- 7 A selection of recent publications 6
- 8 An invitation: come work or study with us! 6
- 9 People 7



# Learning and innovation for Resilient Social-Ecological Systems (LIRS<sup>s</sup>)

## 1 The Department

The Department of Environmental Sciences is part of the Faculty of Science at the Open University of the Netherlands (OU). The Department has existed in various shapes since the inception of the Open University and it embodies the Open University's commitment to excellence in the environmental sciences, science for impact, and lifelong learning in the sustainability domain. The Department has about 20 Faculty Members. The Department has originally been founded as a Department of Natural Sciences, which is still strongly reflected in the present composition of the staff. The Department has long recognized that solutions to environmental problems require interdisciplinarity within the natural sciences, and with the social sciences. Reflecting this, the Department holds chairs in Integrated Environmental Modelling, the Environmental Natural Sciences, Education in Environmental Sciences, and it holds the longest standing Chair in Environmental Policy in the country.

The Department brings together people working on integrated environmental modeling, sustainability learning, and environmental governance. Combining a broad spectrum of disciplines, ranging from ecology, chemistry, physics, the earth sciences, and (eco)toxicology to psychology and policy sciences, the Department of Environmental Sciences has a strong track record in research, as witnessed by its publication record in outstanding academic outlets and its acquisition of prestigious grants (NWO, EU, Marie Curie, INTERREG to name a few). The research of the Department is concerned with aiding society in finding pathways towards a sustainable future. It aims to contribute to the understanding of socio-ecological systems, the development of solutions for environmental issues, and to the wider body of knowledge that helps societies to reach their sustainability goals. There is a close link between the research and the education programs of the Department – our students are actively encouraged to get involved in our research program, and in turn, our research helps us maintain the level and currency of our education programs to the benefit of these same students. The Department is constantly working on the development of new courses that reflect research advances.

## 2 Focus on Learning & Innovation for Resilient Social-ecological Systems (LIRS<sup>s</sup>)

Environmental sciences focus on the functioning of natural systems and the growing influence of humans have on these systems. The term Anthropocene is a concept that describes the increasing entanglement of societies and ecosystems, with humans as an ever more visible driver of large-scale ecological change, even at geological scales. With the pronunciation of the Anthropocene, it has become clear that humanity faces daunting challenges in its relation with and interaction to ecosystems. Ecological and social systems are so closely related that it has become common practice to speak of “social-ecological systems”.

What are the characteristics of these social-ecological systems that require attention? Starting with ecosystems, it has been known for a while that ecosystems and their underlying elements (i.e. biological organisms and their physical environment) are organized at different hierarchical levels which are mutually dependent. These natural systems often show a form of self-regulation in which feedback loops play an important role (homeostasis). The systems show complex interactions which are sometimes poorly understood, giving rise to emergent properties, i.e. system characteristics and behavior that cannot be explained based on knowledge of its constituting parts alone. Therefore new and unexpected dynamics can occur, even if ecosystems tend to self-regulate on the basis of feedback loops.

By implication from these characteristics alone, social-ecological problems are often non-reducible, effectively meaning that resolution cannot be guaranteed by resolving problems part by part. It also means that the problems we will face are highly variable in a temporal and spatial sense, which means that the extent of the problem or the seriousness of it might not be the same in different places and at different points in time.

As a consequence, environmental issues will be surrounded by a high degree of uncertainty, which refers to the difficulty of knowing current and future conditions of systems, but also of the effects of interventions therein. Speaking of such interventions, the fact that ecosystems and ecosystem services are often shared between human communities implies that problems have a collective action component – the actions of one community or jurisdiction affect other communities and jurisdictions, and solutions often need to come from collaboration.

The nature of social-ecological issues as just described renders problem solving a very complex task, as it implies dealing with a wide variety of elements and interactions in the environment. The fact that mutually adapted components exist within ecosystems ('organized complexity') means that systematic and variable interactions between system elements take place, interactions that cannot per se be captured by general laws or deduced from broad, statistical analysis (we build here on Dryzek, 1987, pp. 28–29). In the resulting dynamic contexts, characterized by non-linearity, tipping points and cascading effects, integrated environmental modelling and learning are high priority, as is subsequent innovation, and the development of resilient systems that can withstand pressures or adapt and transform to them.

The research of the Department is concerned with the pathways towards a sustainable future. It aims to contribute to the integrative and interdisciplinary understanding of environmental issues, the development of solutions for environmental problems, and to the wider body of knowledge that helps societies to reach their sustainability goals. The research about sustainable and resilient systems is structured around the notions of integrated environmental modeling, learning, and innovation. These notions stress the multi-, inter- and transdisciplinary nature of research in the environmental domain.

**Resilient social-ecological systems** is a term that builds on the notion of resilience. Which can refer to at least two system characteristics of social-ecological systems: the capacity to absorb shocks and still maintain function on the one hand, and the capacity for renewal, reorganization, development or even transformation on the other (see Folke, 2006). More insight in the constituting elements and processes that influence both forms of resilience and thus constitute resilient systems is a key scientific challenge. Understanding better why some systems withstand environmental pressures and change *and* keep performing their functions, is of key interest, as the scale of pending global change is hard to predict. Insight in the dynamics of renewal and transformation is important because environments of social-ecological systems can change so much that thresholds are passed that mark the limit of the stability domain of a social-ecological system. Which means that the system needs to transform to another state indeed (see Folke, 2006).

**Learning** refers to alterations of thought or behavioral intentions. Learning results from experience and is concerned with the attainment of individual, group or societal goals in the sustainability domain (we build on Paul Sabatier (1988) here). Learning is often social in nature, and usually distinctions are made between learning at a factual level (this is needed for other levels of learning as well), normative learning - changes in appreciations and priorities, and relational learning - learning that pertains to networks, reputations and levels of trust.

**Innovation** can refer to the development of entirely new elements in a system, their diffusion across the globe, or deep impacts of such approaches. Innovation can be a product of innovating – “a thing newly introduced” – or it can relate to the act of innovating – “the introduction of a new thing; the alteration of something established”. A distinction is commonly made between fairly minor improvements and adjustments, and much rarer and more fundamental changes. The perception of how fundamental changes are actually, is context-specific, thus begging the question which context should be the referent. Also, how should innovation be assessed, if one wants to sidestep the overly simple view that it is inherently good or bad? (we borrow from Jordan and Huitema (2014) here).



The central mission framed above is relatively open, implying that multiple topics and emphases fit with our agenda. The Department embraces this diversity and will in this sense facilitate the freedom of its members to explore new topics. Nevertheless, a certain level of crystallization has occurred and several emphases have emerged in the Department's scientific expertise and we are actively exploring opportunities for further momentum building.

### 3 Research emphases

The Department's research is highly interdisciplinary whereby three main research foci can be distinguished: integrated environmental modelling of socio-ecological systems, learning for sustainability, and innovations in environmental governance.

Under the notion of modelling of socio-ecological systems, researchers in the Department focus on **coastal eutrophication**, modelling the links between pollution in river basins and environmental impacts at sea. We study and model the **transition of (urban) energy systems**. Furthermore, **spatio-temporal patterns in biodiversity** in relation to paleoclimatic and paleogeographic changes are studied. Research also concerns transitions in **food and energy production systems** and their effects on the sustainability of water, land and energy use in Sub-Saharan Africa, the implications of **microplastics for the sustainability of food systems** and the effects of such plastics on human and animal health, and lock-ins in climate change policy sub-systems.

The Department involved in research that focuses on **learning for sustainability**, and our research on this theme is based on over 30 years of expertise in learning design, curriculum development and online networked learning. Applying concepts such as social learning, learning regions, and sustainability learning, we address questions about **technology-enhanced learning in sustainability**. Current work is on knowledge transfer and co-creation in defining sustainable societal pathways. The concrete settings in which these agendas are pursued differ, but they include the **learning processes of sustainability professionals**, the learning that emanates from **chemical risk assessment** and environmental impact assessment, **co-constructive scenario development** exercises in coastal regions, the learning effects from mini-publics methods such as citizens juries and serious gaming or scenario exercises. This work also includes the assessment of learning impacts from online courses on sustainability, MOOCs on climate change issues and plastic pollution of the oceans (as the OU developed for UNEP, see under Projects), **competences to address SDGs in higher education (SDG 4 Quality Education, SDG 13 Climate Action)**, and learning towards values-based **pro-environmental behavior**. Much of the work under this theme can be classified as **trans-disciplinary research** because the research is carried out collectively with stakeholders (regional learning, co-creation). In addition we have many students who combine their study with a position in paid work and operate at the intersection of science and their professional employment.

Thirdly, the Department's research is focusing on **innovations in environmental governance**. It explores for instance the introduction and effects of new modes and paradigms of environmental governances. The Department focuses on the forms of **agency** that brings innovation (institutional work, policy entrepreneurship), on the backgrounds and impacts emanating from the emergence of **citizens collectives** (in land use planning, nature conservation, and energy systems), on ways of incorporating justice and equity concerns in policy design, on analysis of the potential for innovation in **polycentric governance systems**, and on the study of policy **lock-ins** impeding climate change adaptation action. The Department studies pathways towards future urban energy supply in which both the potential of **new urban energy systems** and approaches towards their real-world implementation.

### 4 Organization and Policies

The Research Program of the Department of Environmental Science aims to improve the quality, the productivity, impact, and the visibility of the OU's research in the sustainability domain, which is still in development. We aim to facilitate an appealing and lively research environment, which leads to high quality and innovative research on societally relevant themes. The Department achieves its research mission by

stimulating its members to: engage with various relevant academic communities, individually or collectively develop their research ideas, implement their research in an ethical way, publish in high ranking outlets, and actively pursue the dissemination of their research to the relevant publics.

The research themes Learning, Innovation and Resilient Systems structure the research of the Department, and each of the Department members links to at least one of the themes identified. The themes allow for a wide diversity of approaches and sub-themes. Department members are free to develop their own sub-themes, and collaborations, and these may vary over time as priorities shift. At regular moments, the department members discuss common themes and conclusions and observations from their work, and translate these back to the general academic discussions on resilience, learning and innovation. Within the OU, three different fora are available for such discussions: the Department seminar (environmental Science Seminar), seminars under the OU's research programs, and the yearly symposium on learning, innovation for resilient systems (LIRS).

The Department is home to four full professors with an established track record in the environmental sciences, who have leading inputs in their respective academic communities and who work with all other members of the Department to realize the research strategy, for instance by uniting colleagues with a similar interest (as has happened for modeling for instance) or reading groups (on paradigm shifts in governance, or public participation in environmental governance for example). The full professors are also involved as promotor in every Ph.D.-project, working with other faculty in the supervision (the minimum number of supervisors is always two).

On average, the members of the Department can spend around 30% of their time on research, with variations depending on the acquisition of research projects, and specific positions (some of the tenured staff have no formal research task, postdocs and Ph.D. students focus a large extent on research, the acquisition of certain grants can temporarily suspend teaching roles, etc.). Active participation in relevant academic networks is encouraged and facilitated by annually offering 1.500 Euros in travel funding to all active Department members, in order to visit conferences and give presentations.

## 5 Networks

The Department of Environmental Sciences at the OU is a member of the National Research School SENSE and it participates in the OU Graduate School. Ph.D. students at the Department are expected to enroll in both Schools.

National Research School SENSE is a collaboration of multiple Dutch universities, aimed at common strategies in training Ph.D.-Students, quality assurance of ongoing research, and representation of the environmental research community nationally and internationally. Bringing to bear the full advantage of its national reach, the research school offers literally hundreds of specialized courses for our Ph.D. students, from a wide range of disciplines (each student is expected to attain a certificate of 30 ECTS in credits before completing their degree).

The OU Graduate School in the OU's training program for Ph.D.-students. It offers opportunities for networking, bonding with peers, and a range of basic courses which are of interest to all Ph.D. students at the OU.

The Department of Environmental Sciences is an active participant in the three research programs which are supported by the Open University. The Department is a founding member of the Learning and Innovation in Resilient Systems (LIRS) and the Safety and the City research lines, and occasionally joins forces with the Welten Institute when it comes to studying learning effects from innovative online teaching formats. Each of these research lines receives annual funding from the OU, and research funds are allocated on the basis of open competition based on a science foundation (NWO) template, involving external review.



The Department has been very successful under these programs, as witnessed by the relatively large number of research projects that are currently ongoing (see projects). The OU-wide research lines are intended to stimulate collaboration across faculties, and this has led us to intensive collaboration with colleagues from Management Science, History, Psychology, the Humanities, and Computer Sciences for instance.

The members of the Department participate in a range of other professional networks, including - but not restricted to - the European Geosciences Union, the Earth System Governance network, the Resilience Alliance, the European Consortium of Political Research, the Global Partnership on Marine Litter, the Dutch Clean rivers network, the Copernicus Alliance, the International Water Association, the International Society of Ecological Economics, the Dutch Association of the Environmental and Sustainability Professionals, the UNESCO Higher Education Network, the International Studies Association, and the University Association for Contemporary European Studies.

## 6 Projects

Significant ongoing research projects that the Department takes part in include:

UPTAKE, TRANSLOCATION AND TOXICITY OF MICROPLASTICS, funded by <a href="#">NWO_ZonNW Microplastics &amp; Health</a> , involves Dr. Frank van Belleghem, Dr. Ansje Löhr and Inneke Hantoro, Msc and prof. Ad Ragas.
ADAPT-LOCKIN, funded by the <a href="#">NWO Open Research Area (ORA) program</a> . This project involves dr. Lisanne Groen, dr. Jean Hugé, and prof. Dave Huitema.
<a href="#">Marie Curie Intensive Training Network NEWAVE</a> (Next Water Governance), funded by the European Union, involves prof. Dave Huitema.
<a href="#">CO-ADAPT: CLIMATE ADAPTATION THROUGH CO-CREATION</a> , funded by <a href="#">EU INTERREG 2SEAS</a> and OU, involves Borjana Bogatinoska, MSc., prof. Stefan Dekker, dr. Judith Floor, dr. Jikke van Wijnen, and dr. Angelique Lansu.
CLIMATE ADAPTATION AND SPATIAL MODELLING OF FUTURE PATHWAYS, funded by <a href="#">EU INTERREG 2 SEAS</a> and OU, involves Borjana Bogatinoska, MSc., prof. Stefan Dekker, dr. Judith Floor, prof. Dave Huitema, and dr. Angelique Lansu.
<a href="#">D2GRIDS</a> , funded by INTERREG North-West Europe, involves Stef Boesten, Msc., Prof. Stefan Dekker and dr. Wilfried Ivens.
LITTER FREE RIVERS AND STREAM LIVES, funded by INTERREG involves Dr. Judith Floor and Dr. Ansje Löhr.
<a href="#">E-SLP</a> , funded by ERASMUS+, European Short Learning Programme 'Climate Change: from global to local Action'. Involves prof. Paquita Perez.
PROFESSIONAL COMPETENCES FOR SUSTAINABILITY AND SUSTAINABLE LABOUR PARTICIPATION, funded by the OU LIRS Program. Involves dr. Ronald Venn, prof. Paquita Perez, prof. Tinka van Vuuren en prof. Judith Semeijn (both from Management Science).
ENTRUGO (Enhancing Trust in government through effective water governance strategies, 2019-2022), funded by JPI Water, involves dr. Raoul Beunen.
<a href="#">FUTURE URBAN ENERGY</a> , funded by the <a href="#">OU Safety and the City Program</a> . Involves Stef Boesten, MSc., dr. Wilfried Ivens, prof. Stefan Dekker, prof. Joop de Kraker (prof. Marjan Vermeulen from Welten Institute)
SAFETY IN URBAN SYSTEMS, funded by the <a href="#">OU Safety and the City Program</a> . Involves Dr. Valérie Broers, Dr. Lily Fredrix and Dr. Ansje Löhr.
CITIZENS FOR SAFETY, funded by the <a href="#">OU Safety and the City Program</a> . Involves Jasper Bongers, M.A. and prof. Dave Huitema (and prof. Gemma Blok. Prof Emile Kolthoff at other departments).
IMAGINARIES OF THE FUTURE CITY: ENVISIONING CLIMATE CHANGE THROUGH CONTEMPORARY NARRATIVES, funded by the <a href="#">OU Safety and the City Program</a> . Involves prof. Paquita Perez Salgado, prof. Dave Huitema, and dr. Raoul Beunen (plus dr. Marjolein van Herten and prof. Brigitte Adriaensen from the Humanities).
EQUITY AND JUSTICE IN WATER GOVERNANCE, funded by the <a href="#">OU LIRS Program</a> , involves dr. Stijn Neuteleers and prof. Dave Huitema.
CITIZEN INITIATIVES AND SPATIAL PLANNING, funded by the <a href="#">OU LIRS Program</a> , involves Saskia Bisschops, M.A., dr. Raoul Beunen, prof. Joop de Kraker and prof. Dave Huitema.

## 7 A selection of recent publications

- Boesten, S., Ivens, W., Dekker, S., & Eijndems, S. (2019). 5th generation district heating and cooling systems as a solution for renewable urban thermal energy supply. *ADGEO* 49, 129-136.
- Breukelman H., Krikke, H., & Löhr, A. (2019). Failing Services on Urban Waste Management in Developing Countries: A Review on Symptoms, Diagnoses, and Interventions. *Sustainability* 11 (24), 6977.
- Dlouhá, J., Heras, R., Mulá, I., Perez Salgado, F., & Henderson, L. (2019). Competences to Address SDGs in Higher Education: A Reflection on the Equilibrium between Systemic and Personal Approaches to Achieve Transformative Action. *Sustainability*, 11(13), 3664.
- Hantoro, I, Löhr, A.J., Van Belleghem, F.G.A.J., Widianarko, B., & Ragas, A.M.J. (2019). Microplastics in coastal areas and seafood: implications for food safety. *Food Additives & Contaminants: Part A* 36 (5), 674-711 6 2019.
- Hugé, J., Janssens de Bisthoven, L., Mushiete, M., Rochette, A.J., Candido, S., Keunen, H., Dahdouh-Guebas, F., Koedam, N., & Vanhove, M.P.M. (2020). EIA-driven biodiversity mainstreaming in development cooperation: confronting expectations and practice in the DR Congo. *Environmental Science & Policy* 104: 107-120.
- Jordan, A.J., Huitema, D. Van Asselt, H., & Forster, J. (2018). *Governing climate change: Polycentricity in action?* Cambridge University Press, 2018.
- Lansu, A., Boon, J., Sloep, P.B., & Van Dam-Mieras, R. (2013). Changing professional demands in sustainable regional development: a curriculum design process to meet transboundary competence. *Journal of Cleaner Production*, 49, pp. 123-133.
- Morrison, T., Hughes, T., Adger, W., Brown, K., Barnett, J., Lemos, M., Huitema, D., Huchery, C., Chaigneau, T., Turner, R., & Hettiarachchi, M., (2019). Save reefs to rescue all ecosystems. *Nature*, 573, pp. 333-336.
- Perez Salgado, F., Abbott, D., & Wilson, G. (2018). Dimensions of professional competences for interventions towards sustainability. *Sustainability Science*, 13(1), 163-177.
- Tabuenca, B., Kalz, M., & Löhr, A. (2019). Massive Open Online Education for Environmental Activism: The Worldwide Problem of Marine Litter. *Sustainability* 11 (10), p. 2860.
- Uit de Weerd, D.R., Robinson, D.G., & Rosenberg, G. (2016). Evolutionary and biogeographical history of the land snail family Urocoptidae (Gastropoda: Pulmonata) across the Caribbean region. *Journal of Biogeography* 43 (4): 763–777.
- Vita, G., Ivanova, D., Dumitru, A., García-Mira, R., Carrus, G., Stadler, K., Krause, K., Wood, R., & Hertwich, E.G. (2020). Happier with less? Members of European environmental grassroots initiatives reconcile lower carbon footprints with higher life satisfaction and income increases. *Energy Research & Social Science*, 60, 101329.
- Vita, G., Hertwich, E.G., Stadler, K., & Wood, R. (2019). Connecting global emissions to fundamental human needs and their satisfaction. *Environmental Research Letters*, 14(1), 014002.
- Wijnen, J. van, Ragas, A.M.J., & Kroeze, C. (2019). Modelling global river export of microplastics to the marine environment: Sources and future trends. *Science of the Total Environment* 673, 392-401.
- Wijnen, J. van, Ivens, W.P.M.F., Kroeze, C., & Löhr, A.J. (2015). Coastal eutrophication in Europe caused by production of energy crops. *Science of the Total Environment* 511, 101-111.

## 8 An invitation: come work or study with us!

We are a positive minded and public spirited group of colleagues, who are open to new collaborations.

If you are an **academic colleague** and are interested in a research stay, in project collaborations, or other forms of collaborations with our Department, please free to contact us.

If you have plans **to work on a Ph.D.- thesis**, we recommend that you check the fit with our research agendas and contact one of the professors in the Department (see under people), or research coordinator prof. Dave Huitema. The Netherlands has quite a few scientific exchange programs with funding; general information can be found at the [NUFFIC](#) website.

**Students in our Bsc. and Msc.-programs** are warmly invited to read our research program, and to find supervisors for their thesis work. Students who wish to play a role in ongoing research efforts at the Department should coordinate with the Department members involved to see what the possibilities are.





9 **People**

FULL PROFESSORS

**prof. dr. Dave Huitema, Chair in Environmental Policy**

dave.huitema@ou.nl

Research themes: Innovation, Learning

Dr. Dave Huitema is Professor of Environmental Policy at the Netherlands Open University; he also works at the Institute for Environmental Studies (IVM) at the Vrije Universiteit Amsterdam.

Huitema focuses on the adaptability of policy systems. For policy systems to be adaptable, learning needs to take place and agency needs to be developed to translate learning in policy change. This is why the team is analyzing for example the role of experiments, evaluation, and entrepreneurs in learning and policy innovation.

Key publications:

Morrison, T.H., Hughes, T.P., Adger, W.N., Brown, K., Barnett, J., Lemos, M.C., Huitema, D., Huchery, C., Chaigneau, T., Turner, R., & Hettiarachchi, M. (2019). Save reefs to rescue all ecosystems. *Nature*, vol. 573 (7774), p. 333-336.

Jordan, A., Huitema, D., Van Asselt, H., & Forster, J. (2018). *Governing climate change: polycentricity in action?* Cambridge University Press, Cambridge, UK (359 pages).

Huitema, D., Jordan, A., Munaretto, S., & Hildén, M. (2018). Policy experimentation: core concepts, political dynamics, governance and impacts. *Policy Sciences*, 51(2), p. 143-159.

Huitema, D., & Meijerink, S. (Eds.) (2009). *Water policy entrepreneurs: a research companion to water transitions around the globe*. Edward Elgar Publishing, Cheltenham, UK.

Huitema, D., Mostert, E., Egas, W., Moellenkamp, S., Pahl-Wostl, C., & Yalcin, R. (2009). Adaptive water governance. Assessing adaptive management from a governance perspective. *Ecology and Society*, 4(1): 26.

OU research portal profile: <https://research.ou.nl/en/persons/dave-huitema-2>

Google Scholar profile: <https://scholar.google.com/citations?hl=nl&user=fbmO4aMAAAAJ>



**prof. dr. Paquita Pérez Salgado, UNESCO Chair in Knowledge Transfer for Sustainable Development Supported by ICTs, OU Chair in Education in (Environmental) Sciences**

Research theme: Learning

Paquita Perez conducts a targeted research on competences for sustainability and environmental professionals; the focus is on the learning and change processes. The quality of education (SDG-4) is addressed in the form of innovative e-learning programs for climate action (SDG-13) and in the further development and evaluation of competences for sustainability in higher education. The environmental impact (carbon emissions) of e-learning in higher education is also being investigated. New and integrative knowledge concepts for sustainability in higher education are being studied, such as the concept of 'Lived Experience of climate change'. This concept emphasizes diversity, in terms of culture, ethnicity, gender, social class, and connects abstract scientific knowledge with experiential and situated knowledge. A multi- and transdisciplinary approach is taken in the research.

Perez is the former Dean of the Faculty of Science at the Open University of the Netherlands (2001-2013). She worked at the University of Amsterdam (where she got her PhD degree in physical chemistry) and at the Universities of Groningen and Twente. She was an expert at the National Expert Organisation Girls/Women and Science/Technology (VHTO). She is active in several Dutch, European and global organizations in the field of science, sustainability and higher education.

**Key publications:**

Dlouhá, J., Heras, R., Mulá, I., Pérez Salgado, F., & Henderson, L. (2019). Competences to Address SDGs in Higher Education: A Reflection on the Equilibrium between Systemic and Personal Approaches to Achieve Transformative Action. *Sustainability*, 11(13), 3664. <https://doi.org/10.3390/su11133664>

Perez Salgado, F., Abbott, D. & Wilson, G. (2018). Dimensions of professional competences for interventions towards sustainability. *Sustainability Science*, 13(1), 163-177. <https://doi.org/10.1007/s11625-017-0439-z>

Versteijlen, M., Pérez Salgado, F., Janssen Groesbeek, M., & Counotte, A. (2017). Pros and cons of online education as a measure to reduce carbon emissions in higher education in the Netherlands. Structural reduction of carbon emissions through online education in Dutch Higher Education. *Current Opinion in Environmental Sustainability*, 28, 80-89.

Wilson, G., Abbott, D., Kraker, J. de, Pérez Salgado, P., Terwisscha van Scheltinga, C., & Willems, P. (2011). 'The lived experience of climate change': creating open educational resources and virtual mobility for an innovative, integrative and competence-based track at Masters level. *International Journal of Technology Enhanced Learning*, 3(2), 111-123.


OU research portal profile: <https://research.ou.nl/en/persons/paquita-perez-salgado-2>

OU portal sustainability and learning (NL):



<https://www.ou.nl/web/duurzaamheid/duurzaamheid-en-leren>








<p><b>prof. dr. Ad Ragas, Chair in Environmental Natural Sciences</b></p> <p>Research theme: Learning, Resilient Systems</p> <p>Ad Ragas studied biology and obtained his PhD-degree at the Radboud University in Nijmegen, the Netherlands. His main expertise is modelling human and ecological risks of chemicals, with a focus on pharmaceuticals, microplastics and other contaminants of emerging concern. The models he develops involve emissions, fate, external and internal exposure, and adverse effects in humans, farm animals and species of ecological interest. He has a particular interest in quantifying and assessing uncertainty of model predictions. He actively participates in several large research projects on pharmaceuticals and contaminants of emerging concern, i.e. PREMIER, MEDUWA and SUSPECT. He chairs the Dutch scientific advisory committee on quality standards for air and water, and the Dutch Interuniversity Committee on Environmental Sciences. He currently is a member of the working group on plant protection products and local residents of the Dutch Health Council. Ad also holds a position as an associate professor at the Radboud University in Nijmegen.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/ad-ragas-3">https://research.ou.nl/en/persons/ad-ragas-3</a></p> <p>Google Scholar profile: <a href="https://scholar.google.com/citations?user=zbAtxtAAAAJ&amp;hl=nl">https://scholar.google.com/citations?user=zbAtxtAAAAJ&amp;hl=nl</a></p>	
VACANCY, CHAIR IN INTEGRATED ENVIRONMENTAL MODELING	TO BE FILLED IN IN 2020

AFFILIATED FULL PROFESSORS

<p><b>prof. dr. Stefan Dekker, Chair in Global Eco-hydrology and Sustainability</b></p> <p>Research theme: Resilient Systems</p> <p>University of Utrecht research portal profile: <a href="https://www.uu.nl/staff/SCDekker?t=0">https://www.uu.nl/staff/SCDekker?t=0</a></p> <p>Google Scholar profile: <a href="https://scholar.google.com/citations?hl=nl&amp;user=Jg9sPI8AAAAJ">https://scholar.google.com/citations?hl=nl&amp;user=Jg9sPI8AAAAJ</a></p>	
<p><b>prof. dr. Carolien Kroeze, Chair in Environmental Outlook Studies</b></p> <p>Research themes: Resilient Systems, Learning</p> <p>Wageningen University research portal profile: <a href="https://www.wur.nl/nl/Personen/Carolienprof.dr.-C-Carolien-Kroeze.htm">https://www.wur.nl/nl/Personen/Carolienprof.dr.-C-Carolien-Kroeze.htm</a></p> <p>Google Scholar profile: <a href="https://scholar.google.com/citations?hl=nl&amp;user=DaFH6f0AAAAJ">https://scholar.google.com/citations?hl=nl&amp;user=DaFH6f0AAAAJ</a></p>	

## FACULTY

<p><b>Ton Baltissen, Msc., lecturer</b></p> <p>Research theme: Resilient Systems</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/ton-baltissen-2">https://research.ou.nl/en/persons/ton-baltissen-2</a></p> <p>Google Scholar profile: <a href="https://scholar.google.com/citations?hl=nl&amp;user=3bl2m18AAAAJ">https://scholar.google.com/citations?hl=nl&amp;user=3bl2m18AAAAJ</a></p>	
<p><b>dr. Frank van Belleghem, Assistant Professor</b></p> <p>Research theme: Resilient Systems</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/frank-gaj-van-belleghem">https://research.ou.nl/en/persons/frank-gaj-van-belleghem</a></p> <p>Google Scholar profile: <a href="https://scholar.google.com/citations?hl=nl&amp;user=VLXnkqAAAAJ">https://scholar.google.com/citations?hl=nl&amp;user=VLXnkqAAAAJ</a></p>	
<p><b>dr. Raoul Beunen, Associate Professor</b></p> <p>Research theme: Innovation</p> <p>Raoul Beunen is associate professor Environmental Governance. His research explores the potentials and limitations of environmental policy and planning in the perspective of adaptive governance and sustainability. It focuses on innovation and evolution in governance, paying attention to the dynamics of policy implementation and integration, power relations, the emerge and impact of new ideas on governance, and the actions through which actors create, maintain and disrupt institutions. He has published widely on these issues, drawing on numerous empirical studies and different theoretical perspectives. Notable publications include two books on Evolutionary Governance Theory (EGT). These books present a novel theory for analysing and explaining the processes of change and innovation in governance, addressing the co-evolutions between actors, institutions and configurations of power/knowledge. He is member of the editorial board of the journal of Environmental Planning and Management and co-editor of a series of special issues about environmental governance in different journals. Beunen is program manager of the BSc Environmental Sciences at the OU, teaching various courses on environmental governance and spatial planning and supervising BSc and MSc theses that concern these topics. He is also supervising a number of PhD projects that focus on innovation in environmental governance.</p> <p>Key publications:</p> <p>Beunen, R., &amp; Patterson, J.J. (2019). Institutional Change in Environmental Governance: Exploring the Concept of 'Institutional Work'. <i>Journal of Environmental Planning and Management</i>, 62(1), 12-29.</p> <p>Beunen, R., Patterson, J.J., &amp; Van Assche, K. (2017). Governing for resilience: the role of institutional work. <i>Current Opinion in Environmental Sustainability</i>, 28, 10-16.</p> <p>Beunen, R., Van Assche, K., &amp; Duineveld, M. (2015). <i>Evolutionary Governance Theory. Theory and applications</i>. Heidelberg: Springer International Publishing.</p> <p>Beunen, R., Van Assche, K., &amp; Duineveld, M. (2013). <a href="#">Performing failure in conservation policy: The implementation of European Union directives in the Netherlands</a>. <i>Land Use Policy</i>, 31, 280-288.</p> <p>Van Assche, K., Beunen, R., Duineveld, M., &amp; Grzymacher, M. (2017). Power/knowledge and natural resource management: Foucaultian foundations in the analysis of adaptive governance. <i>Journal of Environmental Planning and Policy</i>, 19(3), 308-322.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/ton-baltissen-2">https://research.ou.nl/en/persons/ton-baltissen-2</a></p> <p>Google Scholar profile: <a href="https://scholar.google.com/citations?hl=nl&amp;user=EmAetvcAAAAJ">https://scholar.google.com/citations?hl=nl&amp;user=EmAetvcAAAAJ</a></p>	

**dr. Judith Floor, Lecturer**

Research themes: Innovation, Learning



Judith Floor is lecturer at the Open University NL. She teaches several courses at the OU and works as teacher and researcher for two InterReg projects on climate adaptation and plastic river litter. In the Co-Adapt project of InterReg 2 Seas, she is part of the team that studies co-creation in climate change adaptation and supports the learning interactions between the project partners. In the Litter Free Rivers and Streams (LIVES) project of InterReg Euregio Meuse-Rhine she is part of the team developing new education material on plastic river litter and research on the framing of marine litter and appropriate responses. She is also lecturer and coordinator for a course on science-policy interactions at the Wageningen University. In her teaching and research she uses her interdisciplinary background, obtained in her study of natural science (BSc) at the Radboud University Nijmegen, her study of environmental science (MSc) with a specific focus on policy at the Wageningen University and her study of ethics and philosophy in a one-year program at the Radboud University Nijmegen. In her PhD thesis 'Knowledge uncertainties in nature conservation' (2018, Wageningen University) she used a social science perspective to analyze science-policy interactions in decision-making procedures related to the conservation of the Dutch Wadden Sea. Her current research interests are in discourse analysis, constructive conflict, participation design, knowledge conflict and knowledge uncertainties of incomplete knowledge, unpredictability and ambiguity.

Publications:




- Floor, J.R., & Van Koppen, C.S.A., (2019). Natuurbeheer, ecologie en onzekerheid – een analyse van het mosselvisserijconflict in de Waddenzee. *Landschap: tijdschrift voor landschapsecologie en milieukunde*, 36, 3, ISSN 0169-6300, p. 157-165.
- Floor, J.R., Van Koppen, C.S.A., & Van Tatenhove, J.P.M. (2018). Knowledge uncertainties in environmental conflicts: how the mussel fishery controversy in the Dutch Wadden Sea became depoliticised. *Environmental Politics*, DOI: [10.1080/09644016.2018.1546561](https://doi.org/10.1080/09644016.2018.1546561)
- Floor, J.R., Van Koppen, C.S.A., & Van Tatenhove, J.P.M. (2018). Science, uncertainty and changing storylines in nature restoration – the case of seagrass restoration in the Dutch Wadden Sea. *Ocean and Coastal Management*, 157, 227-236.
- Floor, J.R., Van Koppen, C.S.A., & Van Tatenhove, J.P.M. (2016). Uncertainties in the assessment of "significant effect" on the Dutch Natura 2000 Wadden Sea site - The mussel seed fishery and powerboat race controversies. *Environmental Science and Policy*, 55, 380-392.
- Floor, J.R., Van Koppen, C.S.A., & Lindeboom, H.J. (2013). Review of science-policy interactions in the Dutch Wadden Sea – The cockle fishery and gas exploitation controversies. *Journal of the Sea Research*, 82, 165-175.

OU research portal profile: <https://research.ou.nl/en/persons/judith-floor-2>



<p><b>dr. Lily Fredrix, Assistant Professor</b></p> <p>Research theme: Resilient Systems</p> <p>Dr. Lily Fredrix is a Nutrition scientist (Wageningen University, NL) with a PhD (Maastricht University) in Health, nutrition and cancer and a MSc degree in Health Psychology (Open University, NL). She is an assistant professor at the Department of Environmental Sciences of the Open University (OU). She teaches several courses at the OU on nutrition and environmental health. As a researcher she works in two projects: (1) within the Resilience Science group on food transition and the changing water-energy-food nexus of Sub Saharan Africa, and (2) within the OU Safety and the City program on pro-environmental behavior with regard to plastic.</p> <p>Key publications:</p> <p>Westerterp, K.R., Donkers, J.H., &amp; Fredrix, E.W.H.M. (1995). Energy intake, physical activity and body weight: a simulation model. <i>British Journal of Nutrition</i>, 73 (3), 337-347.</p> <p>Fredrix, E., Soeters, P.B., Wouters, E.F.M., Deerenberg, I.M., Von Meyenfeldt, M.F., &amp; Saris W.H.M. (1991). Effect of different tumor types on resting energy expenditure. <i>Cancer research</i> 51 (22), 6138-6141.</p> <p>Leontjevas, R., Fredrix, E., Smalbrugge, M., Koopmans, R., &amp; Gerritsen, D. (2018). Bayesian analysis showed more evidence for apathy than for depression being associated with cognitive functioning in nursing home residents. <i>Journal of the American Medical Directors Association</i>, 19 (12), 1110-1117.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/lily-fredrix-2">https://research.ou.nl/en/persons/lily-fredrix-2</a></p> <p>Google Scholar profile: <a href="https://scholar.google.nl/citations?user=jOBkYMAAAAJ&amp;hl=nl&amp;oi=sra">https://scholar.google.nl/citations?user=jOBkYMAAAAJ&amp;hl=nl&amp;oi=sra</a></p>	
<p><b>dr. Jean Hugé, Assistant Professor</b></p> <p>Research theme: Innovation</p> <p>Key publications:</p> <p>Hugé, J., Rochette, A.J., De Béthune, S., Parra Paitan, C.C., Vanderhaegen, K., Vandervelden, T., Van Passel, S., Vanhove, M.P.M., Verbist, B., Verheyen, D., Waas, T., Janssens, I., &amp; Janssens de Bisthoven, L. (2020). Ecosystem services assesment tools for African Biosphere Reserves: a review and user-informed classification. <i>Ecosystem Services</i>, 42, 101079. <a href="https://www.sciencedirect.com/science/article/pii/S2212041620300218">https://www.sciencedirect.com/science/article/pii/S2212041620300218</a></p> <p>Martinez-Espinosa, C., Wolfs, P., Vande Velde, K., Satyanarayana, B., Dahdouh-Guebas, F., &amp; Hugé, J. (2020). Call for a collaborative management at Matang Mangrove Forest, Malaysia: an assessment from local stakeholders' viewpoint. <i>Forest Ecology &amp; Resource Management</i>, 458, 117741. <a href="https://www.sciencedirect.com/science/article/abs/pii/S0378112719308473">https://www.sciencedirect.com/science/article/abs/pii/S0378112719308473</a></p> <p>Hugé, J., Janssens de Bisthoven, L., Mushiete, M., Rochette, A.J., Candido, S., Keunen, H., Dahdouh-Guebas, F., Koedam, N., &amp; Vanhove, M.P.M. (2020). EIA-driven biodiversity mainstreaming in development cooperation: confronting expectations and practice in the DR Congo. <i>Environmental Science &amp; Policy</i>, 104, 107-120. <a href="https://www.sciencedirect.com/science/article/pii/S1462901119307427">https://www.sciencedirect.com/science/article/pii/S1462901119307427</a></p> <p>Hugé, J., Vanhove, M.P.M., Verbist, B., Dekeyzer, E., Stoffelen, P., Leemans, I., Sjölund, J., Vertriest, I., Verheyen, E., Keunen, H., Rochette, A.J., &amp; Janssens de Bisthoven, L. (2020). Mainstreaming biodiversity into development cooperation: highlights from an ALTER-NET-EKLIPSE Workshop. <i>Oryx</i>, 54, 14-15.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/jean-hug%C3%A9">https://research.ou.nl/en/persons/jean-hug%C3%A9</a></p> <p>Google Scholar profile: <a href="https://scholar.google.nl/citations?hl=nl&amp;user=NPriWpAAAAAJ">https://scholar.google.nl/citations?hl=nl&amp;user=NPriWpAAAAAJ</a></p>	



<p><b>dr. Wilfried Ivens, Associate Professor</b></p> <p>Research themes: Resilient Systems</p> <p>Associate Professor with a demonstrated history of working in academic education and research. Strong professional skilled in Environmental Sciences, Sustainability, Renewable Energy, Nutrient Cycling, Atmospheric Deposition, Online Distance Education and Academic Management.</p> <p>Key publications:</p> <p>Boesten, S., Ivens, W., Dekker, S., &amp; Eijndems, H. (2019). 5th generation district heating and cooling systems as a solution for renewable urban thermal energy supply. <i>ADGEO</i>49, 129-136.</p> <p>Van Wijnen, J., Ivens, W.P.M.F., Kroeze, C., &amp; Löhr, A.J., (2015). Coastal eutrophication in Europe caused by production of energy crops. <i>Science of the Total Environment</i>, 511, 101-111.</p> <p>Ivens, W.P.M.F., Tysmans, D.J.J., Kroeze, C., Löhr, A.J., &amp; Van Wijnen, J., (2011). Modeling global N2O emissions from aquatic systems. <i>Current opinion in environmental sustainability</i>, 3, (5), 350-358.</p> <p>Deconinck, N., Muylaert, K., Ivens, W., &amp; Vandamme, D. (2018). Innovative harvesting processes for microalgae biomass production: A perspective from patent literature. <i>Algal Research</i>, 31, 469-477.</p> <p>Gerbens-Leenes, P.W., Nonhebel, S., &amp; Ivens, W. (2002). A method to determine land requirements relating to food consumption patterns- <i>Agriculture, ecosystems &amp; environment</i>, 2002</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/wilfried-ivens">https://research.ou.nl/en/persons/wilfried-ivens</a></p> <p>Google Scholar profile: <a href="https://scholar.google.nl/citations?hl=nl&amp;user=-NeMwskAAAAJ">https://scholar.google.nl/citations?hl=nl&amp;user=-NeMwskAAAAJ</a></p>	
<p><b>Els Jans, Msc. Lecturer</b></p> <p>Els Jans has studied biology at the University of Utrecht. At the Department of Environmental Sciences she is lecturer and Education coordinator.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/els-jans-2">https://research.ou.nl/en/persons/els-jans-2</a></p>	
<p><b>prof. dr. Joop de Kraker, Associate Professor</b></p> <p>Research theme: Learning</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/joop-de-kraker">https://research.ou.nl/en/persons/joop-de-kraker</a></p>	



**dr. Angelique Lansu, Assistant Professor**

Research themes: Resilient Systems, Learning

Dr. ir. Angelique Lansu is assistant professor in Earth and Environmental Sciences. Research interest in the water-energy-food nexus is to better understand the interlinked nature of socio-ecological transition processes on their pathways to sustainable development and climate adaptation. Current work is on co-creation and knowledge tools in spatial modelling of brook catchments (co-funded by EU Interreg Co-Adapt), and on how the high growth rates of human activities of Sub Saharan Africa will influence the critical resource use of the energy, water and land, analyzing the nutrition transition. Research interest in technology enhanced learning in sustainability is based on over 25 years of expertise in learning design, curriculum development and management of funded projects in networked learning. Her goal is to understand how professionals /learners could become competent for sustainable development in the knowledge society, with emphasis on networked learning in geo-dispersed virtual teams of students and professionals.

**Key publications:**

- Lansu, A., Ragas, A., Ivens, W., & Munstermann, H. (2018). *Werkveld academische professionals milieu en duurzaamheid*. Interuniversitaire Commissie Milieuwetenschappen (ICM) & Open Universiteit, Heerlen.
- Lansu, A., Boon, J., Sloep, P. B., & van Dam-Mieras, R. (2013). Changing professional demands in sustainable regional development: a curriculum design process to meet transboundary competence. *Journal of Cleaner Production*, 49, 123-133.
- Lansu, A. (2013). *Learning for Sustainable Development. Merging Professional Demands and Academic Standards*. PhD, Open Universiteit.
- De Kraker, J., Lansu, A., & Van Dam-Mieras, M.C. (2007). Competences and competence-based learning for sustainable development. In J. de Kraker, A. Lansu, & R. van Dam-Mieras (Eds.), *Crossing Boundaries. Innovative learning for sustainable development in higher education*. (Vol. 2, pp. 304). Frankfurt am Main: VAS-Verlag.
- Spaans, E.J.A., Baltissen, G.A.M., Bouma, J., Miedema, R., Lansu, A.L.E., Schoonderbeek, D., & Wielemaker, W.G. (1989). Changes in physical properties of young and old volcanic surface soils in Costa Rica after clearing of tropical rain forest. *Hydrological Processes*, 3(4), 383-392.



OU research portal profile: <https://research.ou.nl/en/persons/angelique-lansu-2>



Google Scholar profile: <https://scholar.google.nl/citations?hl=nl&user=Q1Cft1UAAAAJ>







<p><b>dr. Ansje Löhr, Associate Professor and Department head</b></p> <p>Research themes: Resilient Systems, Learning</p> <p>dr. A.J. (Ansje) Löhr has a Master's degree in Marine Biology (University of Groningen, NL) and a PhD degree in Ecotoxicology (Vrije Universiteit Amsterdam, NL). She is an associate professor and head of the Department of Environmental Sciences at the Faculty of Science of the Open University of the Netherlands. She is also a visiting lecturer at the Soegijapranata Catholic University (Semarang, Indonesia). Her teaching and research activities are mainly focused on plastic environmental pollution, covering aspects of (marine) biology, (eco)toxicology, environmental science, integrated water management, pro-environmental behavior and learning for sustainable development. She is involved in varying (international) projects related to marine and riverine plastic pollution and waste management. An important part of her work includes gaining solutions-oriented knowledge and link it to ways to accelerate effective action. Since 2014, she works in close cooperation with the United Nations Environment Programme (UNEP) and the Global Partnership on Marine Litter (GPML) as the project of Trainers on Monitoring and Assessment of Marine Plastic Litter and Microplastics. She is furthermore involved in the Partners for International Business on waste and circular economy Indonesia - The Netherlands (a project agreement with the Netherlands Enterprise Agency (RVO)).</p> <p>Key publications:</p> <p>Breukelman, H., Krikke, H., &amp; Löhr, A. (2019). Failing Services on Urban Waste Management in Developing Countries: A Review on Symptoms, Diagnoses, and Interventions. <i>Sustainability</i> 11 (24), 6977.</p> <p>Hantoro, I., Löhr, A.J., Van Belleghem, F.G.A.J., Widianarko, B., &amp; Ragas, A.M.J. (2019). Microplastics in coastal areas and seafood: implications for food safety. <i>Food Additives &amp; Contaminants: Part A</i>, DOI: 10.1080/19440049.2019.1585581.</p> <p>Tabuenca, B., Kalz, M., &amp; Löhr, A. (2018). MoocCast: evaluating mobile-screencast for online courses. <i>Universal Access in the Information Society</i>, 17(4), 745-753.</p> <p>Löhr, A., Savelli, H., Beunen, R., Kalz, M., Ragas, A., &amp; Van Belleghem, F. (2017). Solutions for global marine litter pollution. <i>Current Opinion in Environmental Sustainability</i>, Volume 28, October 2017, Pages 90-99.</p> <p>Kole, P.J., Löhr, A.J., Van Belleghem, F.G.A.J., &amp; Ragas, A.M.J. (2017). Wear and Tear of Tyres: A Stealthy Source of Microplastics in the Environment. <i>International Journal of Environmental Research and Public Health</i>, 14, 1265.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/ansje-l%C3%B6hr-2">https://research.ou.nl/en/persons/ansje-l%C3%B6hr-2</a></p> <p>Google Scholar profile: <a href="https://scholar.google.nl/citations?hl=nl&amp;user=j67JNvcAAAAJ">https://scholar.google.nl/citations?hl=nl&amp;user=j67JNvcAAAAJ</a></p>	
<p><b>dr. Dennis Uit de Weerd, Assistant Professor</b></p> <p>Research theme: Resilient Systems</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/dennis-uit-de-weerd-2">https://research.ou.nl/en/persons/dennis-uit-de-weerd-2</a></p> <p>Google Scholar profile: <a href="https://scholar.google.nl/citations?hl=nl&amp;user=x9VRdjMAAAAJ">https://scholar.google.nl/citations?hl=nl&amp;user=x9VRdjMAAAAJ</a></p>	

<p><b>dr. Ronald Venn, Assistant professor Sustainability and Learning</b></p> <p>Research line: Learning/OU LIRS</p> <p>Ronald Venn conducts research on competences for sustainability, with a focus on transition processes. Which competences (a combination of knowledge, skills and attitudes) help to maneuver in multi-stakeholder settings? Which dimensions of the competences are culturally bound, or are they universally applicable? Research with international partners is performed and planned. Sustainable employability, being the extent to which people are able and willing to conduct their current and future work, will be investigated with several types of professionals.</p> <p>Key publications:  Venn, R., Perez, P., Vuuren, T. van, &amp; Semeijn, J. (2019). <i>Competences and sustainable employability of Sustainability Professionals in the Netherlands and Belgium</i>. Learning and Innovation in Resilient Systems Symposium 2019, Netherlands. <a href="https://www.ou.nl/web/learning-and-innovations-in-resilient-systems">https://www.ou.nl/web/learning-and-innovations-in-resilient-systems</a>  Perez Salgado, P., &amp; Venn, R. (2018). Competenties voor duurzaamheid. In <i>De Avond van Wetenschap &amp; Maatschappij 2018</i>, pages 19-20. Stichting De Avond van Wetenschap &amp; Maatschappij, Den Haag, Netherlands. <a href="http://www.avondwenm.nl/">http://www.avondwenm.nl/</a></p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/ronald-venn">https://research.ou.nl/en/persons/ronald-venn</a></p>	
<p><b>dr. Gibran Vita Garza, Assistant Professor</b></p> <p>Research theme: Resilience</p> <p>Gibran Vita Garza has a background in Engineering and Biotechnology with experience in manufacturing industries. He holds an Erasmus Mundus M.Sc. in Industrial Ecology and a PhD on Environmental Modelling by NTNU Norway. He has worked as a sustainability consultant integrating technologies into buildings and applying environmental systems analysis. His academic work builds upon global models of energy and materials, such as Environmentally-Extended Multiregional Input-Output Models. His current focus is on pathways towards sustainable wellbeing societies by connecting resources use to social outcomes. He works closely with social scientists and programmers. He is a member of the International Society for Industrial Ecology (ISIE), Sustainable Consumption Research and Action Initiative (SCORAI), International Input-Output Association (IIOA), representative of the Wellbeing Economy Alliance in the Netherlands and alumnus of the International Institute for Applied Systems Analysis (IIASA).</p> <p>Key Publications:  Vita, G., Hertwich, E.G., Stadler, K., &amp; Wood, R. (2019). Connecting global emissions to fundamental human needs and their satisfaction. <i>Environmental Research Letters</i>, 14(1), 014002. <a href="https://doi.org/10.1088/1748-9326/aae6e0">https://doi.org/10.1088/1748-9326/aae6e0</a>  Vita, G., Lundström, J.R., Hertwich, E.G., Quist, J., Ivanova, D., Stadler, K., &amp; Wood, R. (2019). The Environmental Impact of Green Consumption and Sufficiency Lifestyles Scenarios in Europe: Connecting Local Sustainability Visions to Global Consequences. <i>Ecological Economics</i>, 164, 106322. <a href="https://doi.org/10.1016/j.ecolecon.2019.05.002">https://doi.org/10.1016/j.ecolecon.2019.05.002</a>  Vita, G., Ivanova, D., Dumitru, A., García-Mira, R., Carrus, G., Stadler, K., Krause, K., Wood, R., &amp; Hertwich, E.G. (2020). Happier with less? Members of European environmental grassroots initiatives reconcile lower carbon footprints with higher life satisfaction and income increases. <i>Energy Research &amp; Social Science</i>, 60, 101329. <a href="https://doi.org/10.1016/j.erss.2019.101329">https://doi.org/10.1016/j.erss.2019.101329</a></p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/gibran-vita-garza">https://research.ou.nl/en/persons/gibran-vita-garza</a></p> <p>Google Scholar profile: <a href="https://scholar.google.nl/citations?hl=nl&amp;user=ewuhNc0AAAAJ">https://scholar.google.nl/citations?hl=nl&amp;user=ewuhNc0AAAAJ</a></p>	



**dr. Jikke van Wijnen, Assistant Professor**

Research theme: Resilient Systems

Jikke van Wijnen studied chemistry at the University of Amsterdam, with majors in Biochemistry and Environmental and Toxicological Chemistry. Stationed at the study centre of the OU in Amsterdam, she lectures (environmental) chemistry and mathematics, often using a virtual learning environment. She is responsible for the organisation and the implementation of the integrated science practical in the bachelor and supervises students working on their bachelor and master theses.

Since 2012, she focuses on the modelling of global river transport of pollutants (i.e., nutrients, triclosan and microplastics), which has recently resulted in a PhD thesis titled 'River export of pollutants: A global modelling approach'. She further participates in the EU Interreg2Seas Co-adapt project about climate adaptation through co-creation and in the SURF project BISON, that aims to improve teaching in a virtual environment.

Key publications:

Wijnen, J. van, Ragas, A.M.J, & Kroeze, C. (2019). Modelling global river export of microplastics to the marine environment: Sources and future trends. *Science of the Total Environment* 673, 392-401.

Wijnen, J. van, Ragas, A.M.J, & Kroeze, C. (2018). River export of triclosan from land to sea: a global modelling approach. *Science of the Total Environment* 621, 1280-1288.

OU research portal profile: <https://research.ou.nl/en/persons/jikke-van-wijnen-2>

Google Scholar profile: <https://scholar.google.nl/citations?hl=nl&user=M-6eEhMAAAJ>



## POSTDOCTORAL RESEARCHERS

**dr. Valérie Broers**

Research theme: Learning/Safety and the City

Valérie Broers is a post-doctoral researcher at the department of Environmental Sciences, working on the project called "How to overcome the waste problem? Insights from a daily life study into pro-environmental behaviour in the city". This interdisciplinary research project between Environmental Sciences (Valérie Broers, Ansje Löhler, Lily Fredrix) and Psychology (Nele Jacobs, Johan Lataster) is funded by the OU Safety and the City program and is part of the LIRS theme learning. The main aim of the project is to get insight in pro-environmental behavior with regard to plastic, and its personal and environmental determinants in an urban environment. Valérie's research interests include behavior change, nudging, food behaviour and pro-environmental behavior. She obtained her bachelor in social psychology and research Master in social and health psychology at Utrecht University in the Netherlands. Her PhD in psychology was obtained at the Université Catholique de Louvain in Belgium, supported by a research grant funded by the Walloon region called Food4Gut.

## Key publications:

- Broers, V.J.V., De Breucker, C., Van den Broucke, S., & Luminet, O. (2017). A systematic review and meta-analysis of the effectiveness of nudging to increase fruit and vegetable choice. *The European Journal of Public Health, 27*(5), 912-920.
- Broers, V.J.V., Van den Broucke, S., Taverne, C., & Luminet, O. (2019). Default-name and tasting nudges increase salsify soup choice without increasing overall soup choice. *Appetite, 138*, 204-214.
- Broers, V.J.V., Van den Broucke, S., Taverne, C., & Luminet, O. (2019). Investigating the conditions for the effectiveness of nudging: Cue-to-action nudging increases familiar vegetable choice. *Food Quality and Preference, 71*, 366-374.
- Desmedt, O., Broers, V.J., Zamariola, G., Pachikian, B., Delzenne, N., & Luminet, O. (2019). Effects of prebiotics on affect and cognition in human intervention studies. *Nutrition reviews, 77*(2), 81-95.
- Hiel, S., Bindels, L.B., Pachikian, B.D., Kalala, G., Broers, V., Zamariola, G., ... & Neyrinck, A.M. (2019). Effects of a diet based on inulin-rich vegetables on gut health and nutritional behavior in healthy humans. *The American journal of clinical nutrition, 109*(6), 1683-1695.

OU research portal profile: <https://research.ou.nl/en/persons/val%C3%A9rie-broers>

Google Scholar profile: <https://scholar.google.com/citations?user=kadoSD4AAAAJ&hl=nl&oi=ao>



**dr. Lisanne Groen**

Research themes: Innovation, Learning

Lisanne is a postdoctoral researcher at the OU. She works on an NWO-funded research project on climate change adaptation policy lock-ins (ADAPT-LOCKIN, 2019-2022). She is also a senior associate researcher at the Institute for European Studies of the Vrije Universiteit Brussel. Her main research interests are international and European Union (EU) climate change policy, with a focus on adaptation, mitigation and technology transfer. In her PhD thesis (political science, Vrije Universiteit Brussel), Lisanne assessed the EU's performance in the international climate change and biodiversity negotiations (UNFCCC and CBD) over time, for which she received the University Association for Contemporary European Studies Best PhD Thesis Prize in 2017. From 2016 until 2018 Lisanne was a postdoctoral researcher at the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS) in Tokyo, Japan, where she conducted a study for the Japanese Ministry of the Environment on low-carbon technology transfer and lectured on the international climate change negotiations at the Japanese Ministry of Foreign Affairs, among others. Lisanne completed a Bachelor of Arts (European studies) and a Master of Science (political science – EU external relations) at the University of Amsterdam.

**Publications:**

- Groen, L. (2018). Explaining European Union effectiveness (goal achievement) in the Convention on Biological Diversity: the importance of diplomatic engagement, *International Environmental Agreements*, pp. 1-19.
- Oberthür, S., & Groen, L. (2018). Explaining goal achievement in international negotiations: the EU and the Paris Agreement on climate change. *Journal of European Public Policy*, 25 (5), pp. 708-727.
- Oberthür, S., & Groen, L. (2017). The European Union and the Paris Agreement: Leader, Mediator or Bystander? *WIREs Climate Change*, 8 (1), pp. 1-8.
- Oberthür, S., & Groen, L. (2015). The Effectiveness Dimension of the EU's Performance in International Institutions: Towards a More Comprehensive Assessment Framework. *Journal of Common Market Studies*, 53 (6), pp. 1319-1335.
- Groen, L., & Niemann, A. (2013). EU actorness and effectiveness under political pressure at the Copenhagen climate change negotiations. *International Relations*, 27 (3), pp. 308-324.

OU research portal profile: <https://research.ou.nl/en/persons/lisanne-groen>

Google Scholar profile: <https://scholar.google.com/citations?hl=en&user=kkE3SX0AAAAJ>



**dr. Stijn Neuteleers**

Research theme: Innovation/OU LIRS

Stijn Neuteleers has a background in sociology (MA) and in ethics and political theory (MA, PhD). Central research topics are value pluralism, motivations, justice and knowledge conflicts, applied to environmental issues. At the OU, his research deals with justice and equity in water governance.

Previously, he worked as a researcher at the universities of Leuven (KUL), Troyes (UTT), Groningen (RUG) and Louvain-la-Neuve (UCL). He taught courses about ethics and economics as a guest lecturer at the universities of Brussels and Antwerp and is involved as an expert in several advising committees (e.g. Expert panel Leuven 2030, 'Kom op voor je Wijk' Leuven, deontological committee Natuurpunt).

**Key publications:**

Neuteleers, S. (2020, forthcoming). A fresh look at 'relational' values in nature: distinctions derived from the debate on meaningfulness in life. *Environmental Values*.

Neuteleers, S. (2019). Why be cautious with advocating private environmental duties? Towards a cooperative ethos and expressive reasons. *Journal of Agricultural and Environmental Ethics*, 32(4), 547-568.

Neuteleers, S., Mulder, F., & Hindriks, F. (2017). Assessing fairness of dynamic grid tariffs. *Energy Policy*, 108, 111-120.

Neuteleers, S., & Engelen, B. (2015). Talking money. How market-based valuation can undermine environmental protection (co-author Bart Engelen). *Ecological Economics*, 117, 253-260.

Deliège, G., & Neuteleers, S. (2015). Should biodiversity be useful? Scope and limits of ecosystem services as an argument for biodiversity conservation. *Environmental Values*, 24: 165-182.

OU research portal profile: <https://research.ou.nl/en/persons/stijn-neuteleers>



Google Scholar profile: <https://scholar.google.nl/citations?hl=nl&user=fi-RaOcAAAAJ>




ResearchGate profile: [https://www.researchgate.net/profile/Stijn\\_Neuteleers](https://www.researchgate.net/profile/Stijn_Neuteleers)





PH.D.-STUDENTS






<p><b>Saskia Bisschops, M.A.</b></p> <p>Research theme: Innovation/OU LIRS</p> <p>Saskia Bisschops holds a master in Communication Sciences from Radboud University. Her PhD research aims at better understanding the changing role of citizens' initiatives in urban planning from a social science vantage point. Citizens increasingly introduce new planning ideas that involve a greater role for smaller private actors and an enabling role for governments. We still know little about the impact of these initiatives on the 'rules of the game' of local urban planning. Especially since planning rules are currently redesigned, and a new comprehensive Dutch Environment and Planning Act, expected to come into effect in 2021, holds the promise of a more prominent role for citizens. Saskia uses an institutional lens to study the change processes as well as the outcome. The research is based on a mixed method approach in which participant observations, interviews as well as document analysis is used to reveal the mechanisms behind (competing) ideas on the role of citizens in urban planning and their enactment in practice.</p> <p>Supervisors: Dr. Raoul Beunen, prof. Dave Huitema, prof. Joop de Kraker</p> <p>Publications: Bisschops, S., &amp; Beunen, R. (2019). A new role for citizens' initiatives: the difficulties in co-creating institutional change in urban planning. <i>Journal of environmental planning and management</i>, 62(1), 72-87. Bisschops, S., &amp; Hollemans, D. (2018). Participatie: discrepantie tussen wet en praktijk. Rooilijn. <i>Tijdschrift voor wetenschap en beleid in de ruimtelijke ordening</i>, 51(5), 380-386.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/saskia-bisschops-2">https://research.ou.nl/en/persons/saskia-bisschops-2</a></p> <p>Google Scholar profile: <a href="https://scholar.google.nl/citations?hl=nl&amp;user=Mc5VjIAAAAAJ">https://scholar.google.nl/citations?hl=nl&amp;user=Mc5VjIAAAAAJ</a></p>	
<p><b>Stef Boesten, M.Sc.</b></p> <p>Research theme: Resilient Systems</p> <p>Supervisors: prof. Stefan Dekker, dr. Wilfried Ivens, prof. Joop de Kraker, prof. Marjan Vermeulen</p> <p>Researching fifth generation district heating and cooling systems as an alternative to fossil-fuel based heating systems in urban environments in Europe. The aim of the research is to develop a method of finding neighborhood implementation approaches that are both cost optimal, have a minimized carbon footprint, and are acceptable to current residents.</p> <p>Publication: Boesten, S., Ivens, W., Dekker, S., &amp; Eijdem, H. (2019). 5th generation district heating and cooling systems as a solution for renewable urban thermal energy supply. <i>ADGEO</i> 49, 129-136.</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/stef-boesten-2">https://research.ou.nl/en/persons/stef-boesten-2</a></p> <p>Google Scholar profile: <a href="https://scholar.google.nl/citations?hl=nl&amp;user=W2mHVSQAAAAJ">https://scholar.google.nl/citations?hl=nl&amp;user=W2mHVSQAAAAJ</a></p>	

<p><b>Borjana Bogatinoska M.Sc.</b></p> <p>Research theme: Resilient Systems, Learning</p> <p>The overall objective of the PhD research: Climate Adaptation And Spatial Modelling Of Future Pathways Through Co-Creation is to explore and support the modelling efforts with the combination of co-creation and nature-based solutions for achieving socio-ecological resilient systems in selected case studies in the UK, Belgium and the Netherlands. This research is funded by the Interreg 2 Seas program and is part of the Co-Adapt project.</p> <p>Supervisors: prof. Stefan Dekker, dr. Judith Floor, prof. Dave Huitema, dr. Angelique Lansu</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/borjana-bogatinoska">https://research.ou.nl/en/persons/borjana-bogatinoska</a></p> <p>Google Scholar profile: <a href="https://scholar.google.nl/citations?hl=nl&amp;user=JyOHc3UAAAAJ">https://scholar.google.nl/citations?hl=nl&amp;user=JyOHc3UAAAAJ</a></p>	
<p><b>Jasper Bongers, M.A.</b> (based in the Department of History, co-supervised from Environmental Sciences).</p> <p>Research theme: Innovation/Safety and the City</p> <p>Supervisors: prof. Dave Huitema, prof. Gemma Blok (Department of History), prof. Emile Kolthoff (Department of Criminology)</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/jasper-bongers">https://research.ou.nl/en/persons/jasper-bongers</a></p>	
<p><b>Jilt Jorritsma, M.A.</b> (based in the Department of Cultural Studies, co-supervised from Environmental Sciences).</p> <p>Research theme: Innovation/Safety and the City</p> <p>Supervisors: Prof. Brigitte Adriaansen, prof. Dave Huitema</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/jilt-jorritsma">https://research.ou.nl/en/persons/jilt-jorritsma</a></p>	





EXTERNAL PH.D.-STUDENTS

<p><b>Hans Breukelman</b></p> <p>Research theme: Resilient Systems</p> <p>Supervisors: Dr. Ansje Löhr and prof. dr. Harold Krikke</p> <p>Research gate: <a href="https://www.researchgate.net/profile/Hans_Breukelman">https://www.researchgate.net/profile/Hans_Breukelman</a></p>	
<p><b>Francesca Ferranti, M.A.</b></p> <p>Research theme: Innovation</p> <p>Supervisors: Dr. Raoul Beunen, prof. Dave Huitema</p> <p>OU research portal profile: <a href="https://research.ou.nl/en/persons/francesca-ferranti">https://research.ou.nl/en/persons/francesca-ferranti</a></p>	
<p><b>Marian de Haan, M.A., Msc.</b></p> <p>Research theme: Innovation</p> <p>Supervisors: Dr. Raoul Beunen, prof. Dave Huitema</p> <p>Profile: <a href="http://www.landschapstaal.nl/links/curriculum_vitae.pdf">http://www.landschapstaal.nl/links/curriculum_vitae.pdf</a></p>	
<p><b>Inneke Hantoro</b></p> <p>Research themes: Resilient Systems, Learning</p> <p>Supervisors: dr. Frank van Belleghem, prof. dr. Ad Ragas and dr. Ansje Löhr</p>	
<p><b>Daniël Hollemans, M.A.</b></p> <p>Translating ideas and ambitions into law: a study towards the development of the Environment and Planning Act</p> <p>Research theme: Innovation</p> <p>Supervisors: dr. Raoul Beunen, prof. Dave Huitema</p>	

**Judith Sanderse, Msc.**

Research themes: Innovation, Learning

Supervisor: Supervisor: prof. Paquita Perez and dr. Frank de Langen (Management Science)

**Key publications:**

Sanderse, J., Langen, F.H.T. de, & Perez Salgado, F. (2020). Proposing a business model framework for nonprofit organizations. *Journal of Applied Economics and Business Research*, 10(1), 40-53.

Langen, F. de, Sanderse, J., & Perez Salgado, F. (forthcoming 2020). Sustainable innovation for the business models of nonprofit organizations. *Sustainable Innovation: Strategy, Process, and Impact*, ed. Voinea, C.L., Roijackers, N., Ooms, W. Routledge/ Taylor & Francis.

Sanderse, J., Langen, F.H.T. de, & Perez Salgado, F. (Accepted/In press). *The relationship between not-for-profit business models and strategic organisational change*. Paper BAM2019 Conference, Birmingham, United Kingdom.

Sanderse, J., Langen, F.H.T. de, & Perez Salgado, F. (2019). *Using the business model canvas to describe a non-profit organisational change process*. Paper European academy of management annual conference 2019, Lissabon, Portugal.

OU research portal profile: <https://research.ou.nl/en/persons/judith-sanderse>





## COMPLETED PH.D.-PROJECTS WITHIN THE DEPARTMENT

Name	Title	Supervisors, year
Jikke van Wijnen	River export of pollutants: A global modelling approach.	Prof. Carolien Kroeze, (OU/WUR) en prof. Ad Ragas, 2020
Jos Rikers	Education for development, exploring the potential of innovations in education, in particular in the Kenyan context.	Prof. Rietje van Dam-Mieras (OU Unesco, U Leiden), prof. Fred Mulder (OU), prof. Hans van Ginkel, (UU), 2017
Merel van der Wal	Role of computer models in social learning for participatory natural resource management	Prof. Carolien Kroeze (OU), prof. Paul Kirschner (OU), prof. Martin van Ittersum (WUR), prof. Joop de Kraker (OU), 2015
Djoko Suwarno	River export of nutrients to the coastal waters of Indonesia	Prof. C. Kroeze (OU) en prof. B. Widianarko (Soegijapranata Catholic University), dr. A.J. Löhr (OU), 2015
Jeroen Provoost	Soil contamination and indoor air quality'	Prof. Lucas Reijnders (OU), dr. J. Bronders (VITO), 2013
Angelique Lansu	Learning for sustainable development. Merging professional demands and academic standards	Prof. Rietje van Dam-Mieras (OU Unesco, U Leiden), prof. Peter Sloep (OU), dr. Jo Boon (OU), 2013

## FORMER STAFF MEMBERS (UNDER DEVELOPMENT, ADDITIONAL SUGGESTIONS WELCOME)

Dr. Ron Cörvers	<a href="https://www.maastrichtuniversity.nl/r.covers">https://www.maastrichtuniversity.nl/r.covers</a>
Prof. Rietje van Dam-Mieras	<a href="https://www.narcis.nl/person/RecordID/PRS1237235/Language/nl">https://www.narcis.nl/person/RecordID/PRS1237235/Language/nl</a>
Prof. Piet Glasbergen	<a href="https://profs.library.uu.nl/index.php/profrec/getprofdata/680/9/29/0">https://profs.library.uu.nl/index.php/profrec/getprofdata/680/9/29/0</a>
Dr. Mariëtte van Huijstee	<a href="https://www.somo.nl/person/mariette-van-huijstee/">https://www.somo.nl/person/mariette-van-huijstee/</a>
Prof. Theo de Kok	<a href="https://toxicogenomics-um.nl/staff/Theo-de-Kok">https://toxicogenomics-um.nl/staff/Theo-de-Kok</a>
Dr. Marthie Meester	<a href="https://www.researchgate.net/scientific-contributions/2013029229_Marthie_A_M_Meester">https://www.researchgate.net/scientific-contributions/2013029229_Marthie_A_M_Meester</a>
Prof. Lucas Reijnders	<a href="https://www.uva.nl/profiel/r/e/l.reijnders/l.reijnders.html?cb">https://www.uva.nl/profiel/r/e/l.reijnders/l.reijnders.html?cb</a>
Dr. Willemijn Tuinstra	<a href="https://nl.linkedin.com/in/willemijn-tuinstra-0310415">https://nl.linkedin.com/in/willemijn-tuinstra-0310415</a>
Prof. Margriet Westerterp	<a href="https://www.narcis.nl/person/RecordID/PRS1240748/Language/en">https://www.narcis.nl/person/RecordID/PRS1240748/Language/en</a>
Dr. Bert Zwaneveld	<a href="https://research.ou.nl/en/persons/bert-zwaneveld">https://research.ou.nl/en/persons/bert-zwaneveld</a>