

# EXPLORING SUSTAINABILITY

- NOW AND FOR THE FUTURE -



## PE&RC DAY 2019

17 OCTOBER, WAGENINGEN

The recent increase in public awareness on climate change has led to the ubiquitous use of the term *sustainability*. However, with the spread of this term, its meaning has become increasingly misused. Environment, economy and society are the three main pillars of sustainability but unfortunately societal and economical welfare are often prioritized over the environment. During the PE&RC Day 2019, we aim to put the environment in the spotlight and discuss its pivotal role in supporting societal and economic demands.

**What do you associate with sustainability? We will use Mentimeter (see page 3) to create a sustainability word cloud to see how our concept of sustainability changes throughout the day!**

Thanks to the success of last year, we are hosting another collaborative pitch competition. PE&RC staff members will pitch their ideas for a collaboration between the PE&RC institutes. These grants have been created to bring our institutes closer together. You, the audience, decides which collaborations will get funded. So go vote on your favourite pitch! (see page 10). You can also see what PE&RC's PhD candidates are up to by checking out and voting for the pictures they have submitted (three categories; see page 12).

The voting for the pitch competition will be performed through the PE&RC website whereas you will receive a ballot to vote for the Picture Award Competition (see page 3).

Finally, the day itself provides you with great opportunity to connect with other members of the Graduate School for Production Ecology & Resource Conservation (PE&RC). We hope that you will get inspired during our discussion session (page 13) and will continue your journey toward an ever more sustainable world!

We encourage you to live tweet/snap/Instagram/Facebook the event to your digital network with [#PERCday2019](#). To make sure that you can find your way around, we provide you with a map on page 17.

# Programme

- 09.00-09.30 Registration + coffee and tea (registration aisle)
- 09.30-09.45 Welcome and opening
- 09.45-10.15 **Jetske Bouma** “Biodiversity, ecosystem services, and environmental policy – An economist’s perspective”
- 10.15-10.45 **Sander Koenraadt** “One Health a sustainable approach to tackle vector borne diseases?”
- 10.45-11.15 Coffee and tea break (registration aisle)
- 11.15-11.45 **Cathelijne Stooft** “Pyrogeography: the need for diversity”
- 11.45-12.30 **Pitch session Institutional Collaboration**
- 12.30-13.30 Lunch (registration aisle)  
Voting for the Picture Award Competition closes at 13:30
- 13.30-14.00 **Wolf Mooij** “A perspective on modelling water quality in connected systems”
- 14.00-14.30 **Boris Jansen** “A transdisciplinary approach to empower women food entrepreneurs in Kenya and Burkina Faso”
- 14.30-15.00 Coffee and tea break (registration aisle)  
Pitch voting closes at 15:00
- 15.00-15.30 **Marijke van Kuijk** “Exploring sustainability of forest resource use”
- 15.30-15.40 **Picture awards**
- 15.40-16.05 **Report from last year’s collaboration grant winners and announcement of 2019 winners**
- 16.05-16.20 Closing remarks
- 16.20-18.00 Discussion session & Drinks (registration aisle)
- 18.00-20.00 Dinner (Grand Café on the ground floor)

# The voting systems

## *Mentimeter*

As a start, help us to define the widely-used term 'sustainability' using this online tool. Please participate in this first online interactive session and contribute to a collaborative word cloud to get a feeling of what people associated with sustainability.

The three steps to take part to this session:

1. Take your smartphone along and go to [menti.com](https://www.menti.com)
2. Enter the code that will appear on the top of the slide to access the online voting system
3. Describe your idea of sustainability in 3 words

## *The Institutional Collaboration Pitch*

The online voting for this competition will be performed through the PE&RC website, go to [pe-rc.nl/vote](https://pe-rc.nl/vote). You will receive a unique access code at the moment of registration that you will use for this competition. You can find more details about this competition at page 10.

***Voting for the collaboration pitch opens following the pitch session and closes at 15:00. Note that you can use your unique access code only once.***

## *The Picture Award Competition*

This voting will allow you to select the Best Picture submitted for each of the three categories. You will be given a ballot along with your registration badge on which you can record the number of your favourite picture per category. The ballot can be dropped in the provided box.

**Voting for the Picture Award Competition closes at 13:30!**

**[YOU choose our winners!!!](#)**

# Speakers & Abstracts



## Jetske Bouma



“Biodiversity, ecosystem services  
and environmental policy”

*The Millennium Ecosystem Assessment (2005) widely promoted the framework of ecosystem services as a useful conceptualization of the societal value of biodiversity. Since then, both researchers and policy-makers have been struggling with the concept and its implications for policy. This presentation will discuss the advantages and disadvantages of the concept of ecosystem services, with illustrations from the current policy debate in the Netherlands on agricultural policy. In addition, the presentation will reflect on some of the difficulties of collaborating between disciplines, most specifically between ecologists and economists. For this, Jetske will use her experiences in the editing of the Cambridge University Press book ‘Ecosystem services: from concept to Practice’.*

# Speakers & Abstracts



## Sander Koenraadt



“One Health: a sustainable approach to tackle vector-borne diseases?”

*Quite regularly, one can read a newsfeed about a novel malaria vaccine, a breakthrough in malaria drug development, or a new way to kill those pesky mosquitoes that transmit the disease. Often the focus is on the development of technical solutions that preferably are ‘silver bullets’ and thus protect large populations from disease. But to what extent can these new tools live up to the expectations? Are today’s solutions not tomorrow’s problems? In this talk, I will use examples from my own research on disease transmitting insects and present ideas for how a One Health research agenda could look like.*

# Speakers & Abstracts



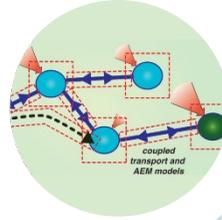
## Cathelijne Stoof



“Pyrogeography:  
the need for diversity”

*2018 was a glimpse of the future: deadly mega-fires in Mediterranean and numerous wildfires in temperate and boreal regions. Traditional mono-disciplinary attitudes cannot solve this challenge: there is a critical need to change management paradigms from fire resistance to landscape resilience: Living with Fire. The key to Living with Fire is embracing diversity in all its aspects, to prevent people from reinventing the wheel and instead allow learning from others through collaboration: across disciplines, sectors and geographies, and including social diversity. In this talk, I will discuss landscape fire challenges in NW and Southern Europe and discuss how we hope to shift the fire suppression paradigm with our new PyroLife project, the first doctoral training programme on integrated fire management worldwide.*

# Speakers & Abstracts



## Wolf Mooij



“A perspective on modelling water quality in connected systems”

*Food production for a growing world population relies on application of fertilisers and pesticides on agricultural lands. However, these substances threaten surface water quality and thereby endanger valued ecosystem services such as drinking water supply, food production and recreational water use. Such deleterious effects do not merely arise on the local scale, but also on the regional scale through transport of substances as well as energy and biota across the catchment. Here we argue that aquatic ecosystem models can provide a process-based understanding of how these transports by water and organisms as vectors affect – and are affected by – ecosystem state and functioning in networks of connected lakes. Such a catchment scale approach is key to setting critical limits for the release of substances by agricultural practices and other human pressures on aquatic ecosystems. Thereby, water and food production and the trade-offs between them may be managed more sustainably.*

# Speakers & Abstracts



## Boris Jansen

“A transdisciplinary approach to empower women food entrepreneurs in Kenya and Burkina Faso”



*In this presentation I will highlight how we use transdisciplinary research to address the complex challenges related to the challenges of sustainability. For this I will present results of an ongoing transdisciplinary research project that we are carrying out in a team of natural scientists, social scientists and local stakeholders. The aim of this project is to strengthen women’s food entrepreneurship in city slums in Kenya & Burkina Faso, based on an integrated understanding of the complex interactions between soil quality, food production and quality for vulnerable groups.*

# Speakers & Abstracts



## Marijke van Kuijk

“Exploring sustainability  
of forest resource use”



*People living in South Suriname depend in their daily life on the products that the forest offers. They hunt for meat, they gather fruits, seeds and other food, and the forest provides them with construction materials and medicine. It is often assumed that the use of these products for subsistence is sustainable, but is it really? Which consequences does the constant extraction of resources have on plant and animal communities? And what are the impacts if inhabitants of a village increase resource extraction of a certain product for economic development? We are exploring the sustainability of the use several forest resources in South Suriname. In all projects, we do this in close collaboration with indigenous peoples, NGOs and other local partners. This way, we optimize knowledge transfer and enable capacity building. This does not only contribute to the sustainable use of forest products, but also to the sustainability of the project itself.*

# Institutional Collaboration Pitches

In the past years, PE&RC has grown immensely. The number of insightful courses and fun activities, but also of PhDs, post-docs and staff has increased with the addition of other universities and institutes. Even though we are getting more connected, we dream of making those connections even stronger. That is why, after the successful initiation of the call for institutional collaboration in 2018, the call is set again in 2019. We especially want to encourage PhDs, post-docs, and staff to look outside of their own departments and combine their great minds.

We are happy to give the floor to **5 applicants**. They will *present their proposal in a 3-minute pitch* during the plenary session on this PE&RC Day, in a random order. **The final list of selected pitches will be available on the handouts given at the beginning of the Day**

PE&RC believes strongly in the bottom-up approach. Therefore, you as audience of the PE&RC Day will be given the opportunity to *vote for your favourite project!* You will do so just after listening to the pitches and by using the unique access code that you will be provided for this specific competition. It will allow you to access the online voting at the PE&RC website – **only once!**

The three most voted for projects will be announced at the end of the day and be granted the funding (up to 4 month PhD salary / 3 month postdoc salary, or equivalent combinations of these).

To cast your vote for the best pitch, go to [pe-rc.nl/vote](https://pe-rc.nl/vote).

# Last Year Winners

We are very happy to welcome the 3 winners of last year collaboration call! They will shortly present the progress/results of their projects.



Rachel Creamer, Gerlinde de Deyn (WU ESG-SBL)  
& Boris Jansen, Elly Morriën, Peter de Ruiter (UVA  
IBED-ELD)

*“To the roots of carbon storage”*



Liesje Mommer (WU ESG-PEN) and Jochem Evers  
(WU PSG-CSA)

*“Going underground: using 3D root trait modelling to  
evaluate mixed cropping system”*



Marijke van Kuijk (UU E&B) & Patrick Jansen (WU  
ESG-REG)

*“Estimating animal density in tropical and temperate  
forest”*

# Picture Award Competition

Participants of today's event submitted their pictures to one of our three categories:

**Category 1: Thesis Cover**

**Category 2: Field Work**

**Category 3: Lab work**

The top 3 of each category will be awarded a prize with a value of € 75, € 50, and € 25.

**YOU choose our winners!**

Use the ballot you will receive to choose your favourite picture in each category and use the ballot boxes at the registration aisle to vote



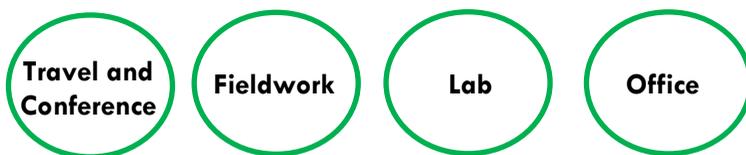
# Discussion Session

*How can we start balancing the environmental costs of our research?*

In 2007, 13 conservation scientists calculated their annual CO<sub>2</sub> emission and realized they were more than 10-times the global average<sup>1</sup>. A single conference paper results in an average of 800 kg of CO<sub>2</sub> emitted<sup>2</sup>. Laboratories, with their slew of constantly running equipment such as fume hoods, ultra-low temperature freezers, single use plastics, typically use 5- to 10- times as much energy as office buildings<sup>3</sup>. Fieldwork also often involves extensive travel, via air, car or boat, to move between sampling sites.

The environmental impact of our science is often at odds with our values regarding how to live a sustainable life style. With some effort and creativity, we can start taking steps to reduce this impact. The PE&RC Day symposium presents a great opportunity to discuss these challenges and to discuss solutions to problems we all face. The goal of this discussion session is to share initiatives from each other's institutes, come up with creative solutions, and generally raise awareness about the impacts our research has on the environment.

Four discussion stations are set up around the room:



We encourage you to speak with people outside of your research group or institute to see how others are tackling sustainability challenges in each of these areas. If you're having trouble getting started, have a look over this article of Rosen (2017)<sup>4</sup>, outlining what other scientists are doing. Share your ideas on the flip charts at the relevant station, and the ideas will be sent around to everyone following the symposium!

1. Fox et al. 2009. *Front. Ecol. Environ.* 7:294–296. <https://doi.org/10.1890/09.WB.019>
2. Spinellis and Louridas. 2013. PLoS ONE. e66508. <https://doi.org/10.1371/journal.pone.0066508>
3. U.S Environmental Protection Agency. 2008. <https://www.nrel.gov/docs/fy08osti/29413.pdf>
4. Rosen. 2017. *Nature* 546:565-567. <https://www.nature.com/nature/journal/v546/n7659/full/nj7659-565a.html>

# Your moderator

The man in charge during the day is Prof. dr. Bas Zwaan. Bas chairs the laboratory of Genetics at Wageningen University & Research, but more important to us: he is the scientific director of the board of PE&RC. Bas is the go-to guy for moderating this day. It's not his first time moderating, and we hope it's not the last time he volunteers. It's always a good conference when Bas is running the show.



# The PE&RC PhD Council (PPC)



PhD candidates of PE&RC are organised in the PE&RC PhD Council (PPC). The members of this council represent the various research institutes, research fields and categories of PhD candidates within the graduate school. The main objective of the PE&RC PhD Council is to advise the PE&RC PhD Programme coordinators, the PE&RC Board and the PE&RC Committees, both at their request and on its own initiative. Additionally, the PPC serves as a “Knowledge and Experience Base” for new PhD candidates. The PPC meets every six weeks. The PE&RC PhD Programme coordinators generally join these meetings.

If you have any questions about the PPC, or if you feel the PPC should know about a certain issue that you are experiencing or that you heard of, and that applies to more people than just you yourself, then please contact the PPC directly via their dedicated e-mail address: [ppc.perc@gmail.com](mailto:ppc.perc@gmail.com).

Also, if you are interested in joining the PPC yourself, please contact them via [ppc.perc@gmail.com](mailto:ppc.perc@gmail.com) or directly approach one of us! All members of the PPC are wearing blue badges during the day.

# The PE&RC Day committee

It has been our great pleasure to organize this year's PE&RC Day for you. We are very excited about the collaborative pitches and hope that this year PE&RC will also promote some nice discussion around sustainability. It's great to see that so many of you have signed up to join us in Wageningen for this day, even though some of you have to get up early and travel far!

We would like to extend our special thanks to the **PE&RC office** for their involvement and getting the funding for our pitch awards. Of course we also want to express our gratitude to **Bas Zwaan** for being our chair of the day and to the speakers for making this day so interesting with their talks!

*We hope you enjoy the day as much as we enjoyed organizing it!*



**Francesco Boatta**  
Department of Animal Ecology  
Vrije Universiteit Amsterdam



**Morgan Brown**  
Institute of Biodiversity and Ecosystem Dynamics  
University of Amsterdam



**Nathalie Amacker**  
Ecology and Biodiversity  
University of Utrecht



**Daniela Requena Suarez**  
Geo-information Science and Remote Sensing  
Wageningen University



**Jacqueline Verhoef**  
PE&RC PhD Programme Assistant

# Route description

## Wageningen UR-route

All buildings of Wageningen UR have an unique number. Signs along the main roads in Wageningen show where clusters of buildings are located (for example, building numbers 100-200). Within the various clusters, routes to the individual buildings are shown.

Wageningen UR (University & Research centre)  
P.O. Box 9101  
6700 HB Wageningen  
T 0317 - 48 01 00  
www.wageningenUR.nl

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Please send questions and remarks to [info@wur.nl](mailto:info@wur.nl)



## Wageningen UR gebouwen / Wageningen UR Buildings

- 100 Lumen
- 101 Gaia
- 102 Forum**
- 103 Orion
- 104 Atlas
- 107 Radix
- 109 Radix Serre, Radix Klima, Radix Agros
- 112 Nergena
- 113 Schoutenhoef
- 114 Droevendaal
- 115 Futurum/Impulse
- 116 Actio

- Droevendaalsesteeg 3a
- Droevendaalsesteeg 3**
- Bronland 1
- Droevendaalsesteeg 4
- Droevendaalsesteeg 1
- Bornsteeg 48
- Bornsteeg 10
- Bornsteeg 16
- Kieleskampsteeg 32
- Stippeneng 2
- Akkermaalsbos 12

- 117 Nexus
- 118 Axis
- 119 Triton
- 120 Carus
- 121 Innovatron
- 122 Zodiac
- 123 Vitae
- 124 Helix
- 130 Sports Centre de Bongerd (SCB)
- 201 De Leeuwenborch

- Akkermaalsbos 14
- Bornse Weilanden 9
- Vijde Polder 1
- Bornse Weilanden 5
- Bornse Weilanden 4
- De Elst 1
- Akkermaalsbos 2
- Stippeneng 4
- Bornsteeg 2
- Hollandseweg 1

■ Parkeerterrein / Parking area

— Fietspad / Bicycle path

Buslijn 84/88 / Bus number 88/84

Gebouwen / terrein niet-Wageningen UR /  
Non-Wageningen UR Buildings / Terrain:

- A FrieslandCampina
- B NIOO-KNAW
- C Stoas