

PE&RC Day 2018

November 8

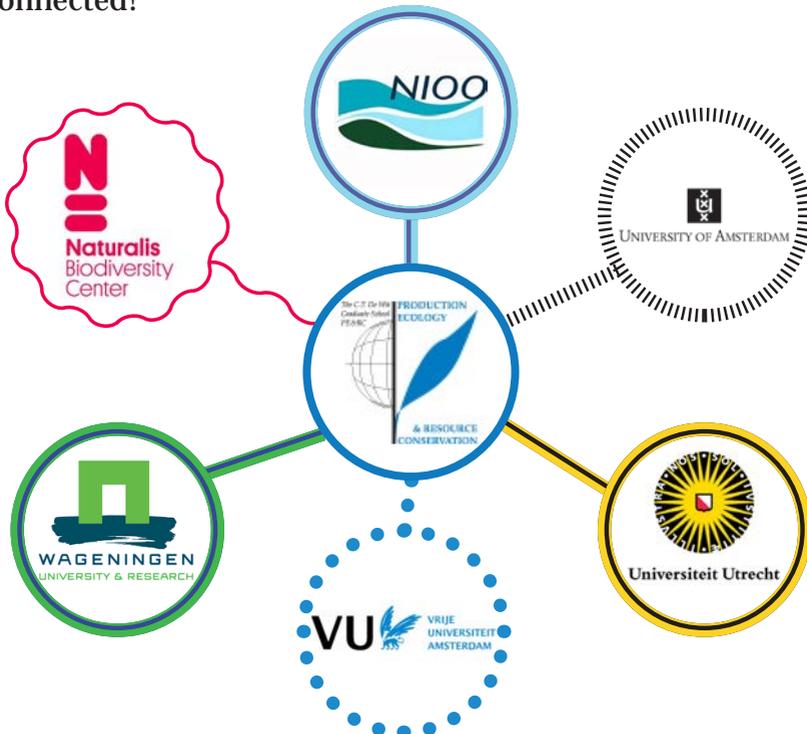


PE&RC Day 2018

Today is all about networks and networking. This year we are introducing the collaborative pitch competition. PE&RC staff members are here to pitch their ideas for a collaboration between the PE&RC institutes. These pitches were set out to bring these institutes closer together. You, the audience, decides which collaborations will get funded. So go vote on your favourite pitch! (see page 11). You can also see what PE&RC's PhD candidates are up to by checking out and voting for the pictures they have submitted. This year we have three categories to compete in (see page 10).

Of course modern day networking has moved into the digital age. So we encourage you to live tweet/snap/instagram/facebook the event to your digital network with [#PERCday2018](#). To make sure you can actually do this we have set up a phone charging station near the voting booths. Bring your phone here to give it some extra juice.

Finally the day itself provides you with great opportunity to connect with others working in Production Ecology & Resource Conservation. Get connected!



Programme

| | |
|-------------|--------------------------------------|
| 7.30 | Bus departure from Wageningen Campus |
| 09.00-09.30 | Registration + Coffee and Tea |
| 09.30-09.45 | Welcome and opening |
| 09.45-10.20 | Astrid Groot |
| 10.20-10.55 | Wim van der Putten |
| 10.55-11.25 | Coffee and tea break |

Opportunity to check out the picture competition

| | |
|-------------|--|
| 11.25-12.00 | Monique de Jager |
| 12.00-12.45 | Pitch session Institutional Collaboration |
| 12.45-14.00 | Lunch |

Opportunity to vote for best picture (last chance) and pitch

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|-------------|-----------------------------|
| 14.00-14.35 | Jef Huisman |
| 14.35-15.10 | Frank van Langevelde |
| 15.10-15.40 | Coffee and tea |

Last chance to vote for the pitches!

| | |
|-------------|------------------------------------|
| 15.40-16.15 | Toby Kiers |
| 16.15-16.45 | Picture and Pitch awards |
| 16.45-17.00 | Closing remarks |
| 17.00-18.00 | Drinks at venue |
| 18.00-20.00 | Dinner at De Oerknal |
| 20.00 | Departure bus to Wageningen Campus |

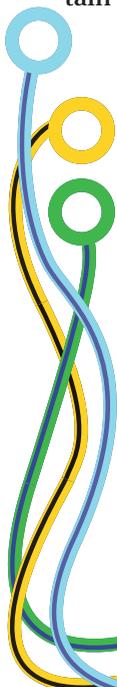
The Speakers



Astrid Groot – IBED (UvA)

Species interactions affect the evolution of sexual attraction

Species interactions may cause shifts in their behavior or ecology, with evolutionary consequences, such as resistance development or even speciation. Our research focuses on the evolution of sexual communication; how do signals and responses evolve and what are the selection pressures exerted by closely related species and parasites? Through a combination of behavioral lab and field experiments and genetic analyses, we aim to discover the genetic changes underlying the interactions that lead to population divergence, and assess whether and how these changes at micro-evolutionary scale can be extrapolated to macro-evolutionary biodiversity patterns. Night-active Lepidoptera (moths) are ideal organisms to address these questions, because they are one of the most diverse group of animals (~140.000 species), with well-defined, unimodal sexual communication: females produce a species-specific sex pheromone that attracts males from a distance, there is communication interference between sympatrically occurring species, and moths contain parasites that may affect their sexual attraction.





Wim van der Putten – NIOO

Plant socialization in a new world: reconnecting with belowground and aboveground communities

It is generally assumed that the introduction of plant species in a new habitat will lead to invasion. However, only a small minority of all introduced plant species will become invasive. I will discuss how the process of 'socialization' might explain these patterns. In their native range, plant species interact with belowground and aboveground multi-trophic communities. The net effect of all these interactions explains plant abundance patterns. When moving to a new range, either by human help or –indirectly- by global change-induced range expansion, plants will develop interactions with the local belowground and aboveground microbes, invertebrates and vertebrates. First, generalist interactions will develop, while over time more specialized interactions will develop. Studying the temporal dynamics of these interactions in relation to plant abundance provides novel insights into the process of 'socialization', and I will propose that this knowledge may be used to re-define what should be considered naturalization from an aboveground-belowground perspective. This knowledge may also be used to provide multi-dimensionality to nature restoration and conservation, such as is aimed at by the intended *Deltaplan for Biodiversity Restoration*.



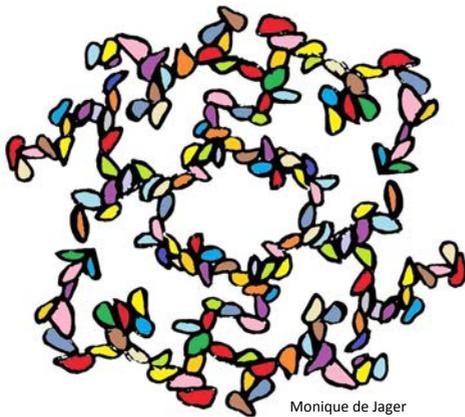


Johan van de Koppel

Monique de Jager - NIOO

Lévy-like movements in a labyrinth-like society: How mussels stick together

Humans have overcome the necessity of being 'spatially close' in order to be 'socially close'; yet, most other animals still require proximity to interact. In mussel beds, networks are generated that are both spatial and social: the labyrinth-like spatial structure of a mussel bed increases a mussel's chances to cooperate with its neighbours while maintaining a sufficient food supply across the bed. To generate these patterns, movement is needed. Mussels search for conspecifics in a Lévy-like pattern, alternating many short moves with occasional longer ones. Such Lévy-like movements are most efficient in mussel bed pattern generation and have hence evolved as their default movement strategy.



Monique de Jager





Jef Huisman - UvA

The black queen hypothesis: How a social network protects the entire aquatic community against oxidative stress

According to the Black Queen Hypothesis, some species (known as beneficiaries) may rely on other species (helpers) that provide essential but costly functions for survival. This hypothesis stems from the card game Queen of Hearts, where the Black Queen is the most expensive card. Each individual player aims to get rid of this expensive card, but without this card the game cannot be played. An illustration of the Black Queen Hypothesis can be found in the plankton of lakes and oceans. Some phytoplankton species have lost the ability to degrade reactive oxygen species (ROS). Other species, however, may produce enzymes like catalases and peroxidases required for the degradation of ROS and may thereby protect the entire community against high oxidative stress.





Frank van Langevelde

Frank van Langevelde - WUR

What can animals tell us about poaching?

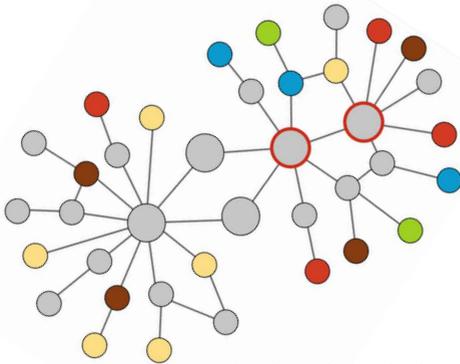
Populations of elephants and rhino are worldwide alarmingly decreasing, which is mainly attributed to poaching. Current attempts to reduce poaching dissatisfy as numbers of poached elephant and rhino still increase. When studying predator-prey interactions, we realized that the response of prey to disturbances, such as predators, can be used to infer the location of disturbance. We tested this hypothesis in a private game reserve in South Africa where we mimicked poachers, and the results indeed confirm that we can use the changes in animal distribution to tell us where poachers are. This study provides fundamental understanding of the distribution of animals using more than 100 animals equipped with a GPS collar, and at the same time it allows us to learn from nature to help to prevent poaching. During the presentation I will highlight what triggered our study and present some results of our large-scale field experiment.

Toby Kiers - VU

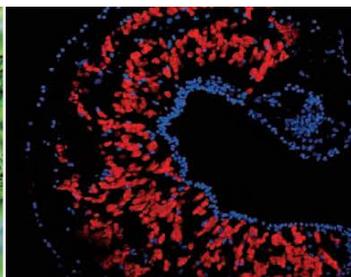
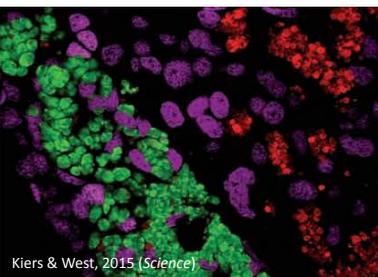
Tracking trade across fungal networks

Human societies around the world are regulated by sets of over-lapping rules: fiscal, judicial, etc. Practices, such as coercing, regulating, and policing, prevent cheating and exploitation, and allow for large-scale cooperation that drives modern societies. Such control is necessary because cooperation is fragile: an association that starts out being mutually beneficial can evolve into one that is parasitic. This is also true in symbiotic relationships in nature, in which different species form intimate partnerships to trade services and resources.

Underground, arbuscular mycorrhizal (AM) fungi form massive physical networks connecting roots of diverse host plants. How do hosts maintain cooperation with the most beneficial fungal symbionts over the course of evolution? How do fungi chose the most beneficial hosts partners? Adaptations that allow individuals to discriminate among partners based on actual symbiotic performance help promote the persistence of cooperation, and allow organisms to negotiate conditions of trade across complex networks. My lab develops tools to visualize, track and quantify symbiotic trade over space and time. Ultimately, we are interested in predicting how and when cooperation is favored to evolve.



Toju et al., 2018 (*Nature Plants*)



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 increased with the addition of other universities and institutes. And even though we are getting more connected, we dreamt of making those connections even stronger. What we especially wanted to encourage was for PhDs, post-docs and staff to look outside of their own departments and combine their great minds. This idea led to the birth of this institutional collaboration grant.

We are very happy to give the floor to 6 applicants. They will **present their proposal in a 3-minute pitch**, carte blanche, during the plenary session on this PE&RC 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!** It won't be like "The Voice of Holland" or "Dance, dance, dance", but we trust it will be an exciting moment to offer the three most favoured projects the funding (up to 4 month PhD salary / 3 month postdoc salary, or equivalent combinations of these).

At registration you are all given vote tokens. **These tokens can be used to vote during the lunch break.** Each colour is worth a certain number of points (below). We have set up a voting station with boxes with the title and applicants on the box. You can put your coins in these boxes as you see fit, but only one coin per box is allowed (so give a top 3). **The pitches will be in random order.** Names and a page for notes have been provided with the handout to make it easier for you. At the end of the day the 3 winners will be announced.



3 points



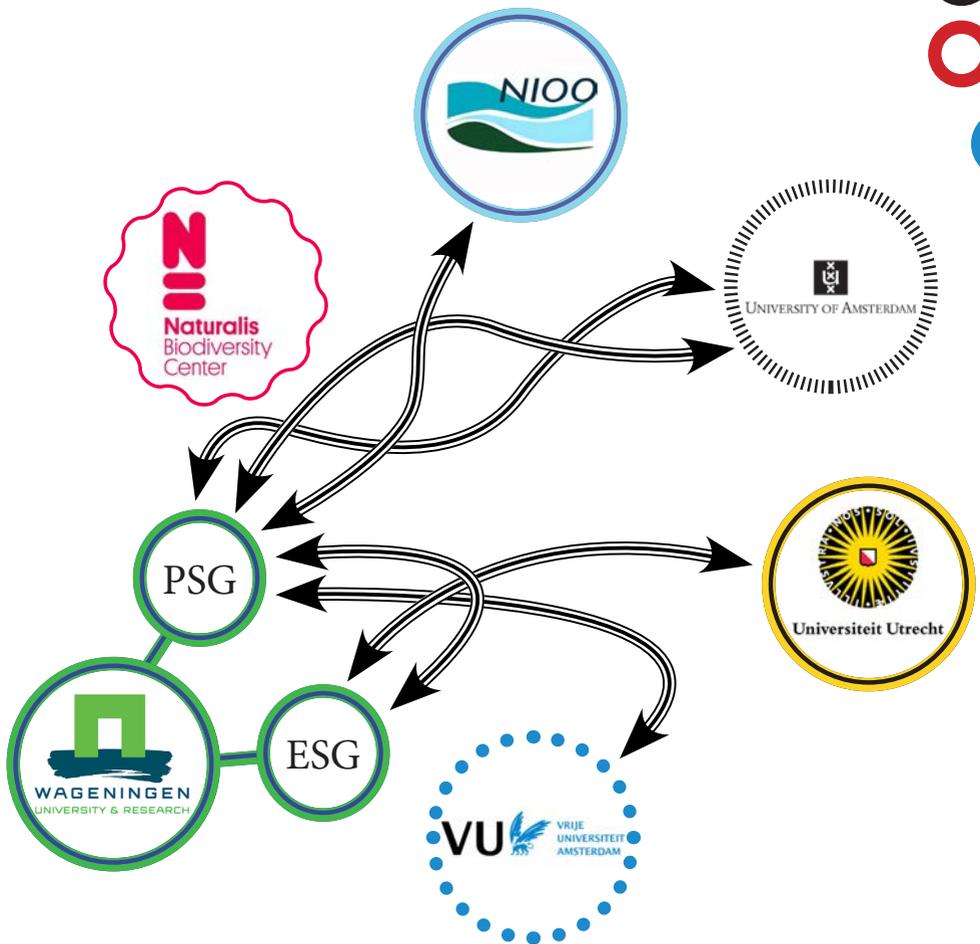
2 points



1 point



*How the pitches connect
the six institutes of PE&RC*



Picture Competition

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

Thesis Cover

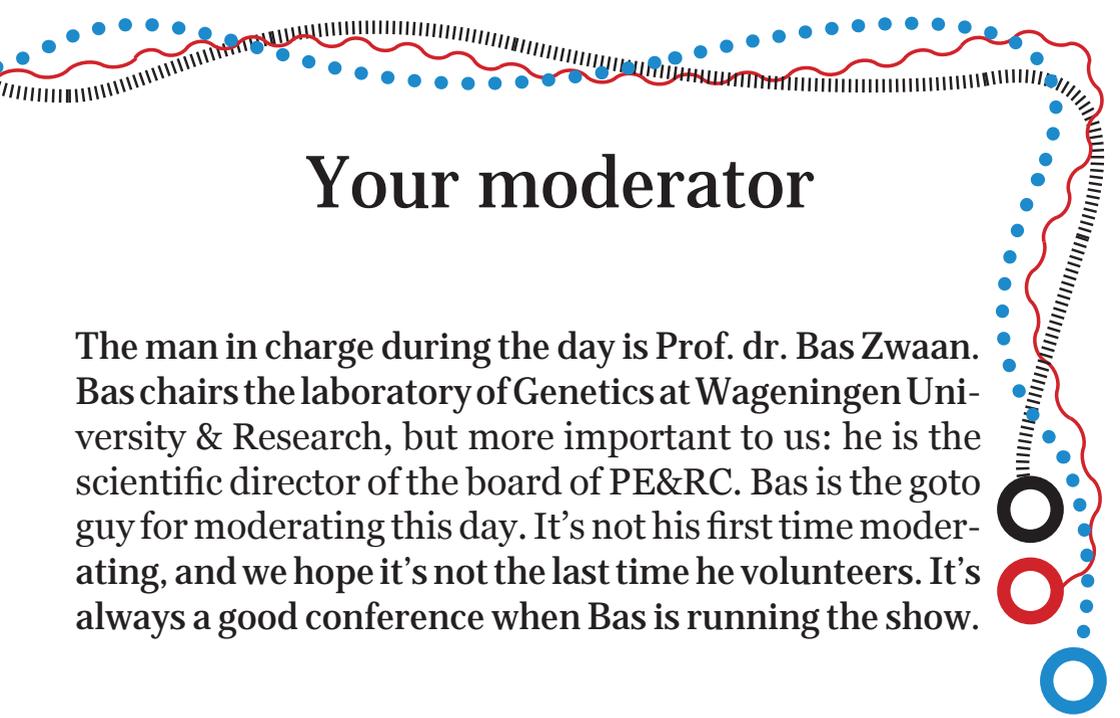
Field Work

Lab work

You choose our winners!

You received a voting slip along with your name badge. This slip can be handed in at our voting booths until 14.00, during the lunch.





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)



Lennart Susselbeek

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@wur.nl.

Also, if you are interested in joining the PPC yourself, please contact them via ppc.perc@wur.nl.

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 we've been able to add this year and the 3rd category in our picture competition. It's great to see that so many of you have signed up to join us in Amsterdam 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. Which we are sure he will do with much gusto and excitement, as he always does.

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



WAGeningen
UNIVERSITY



Lisa van Sluijs
Plant Science Group
Laboratory of Nematology/Virology

VU



Milou Huizinga
Department of Ecological Sciences
System Ecology Section



WAGeningen
UNIVERSITY



Judith Oymans
Biovetenary Research (Lelystad)
Laboratory of Virology

XOX



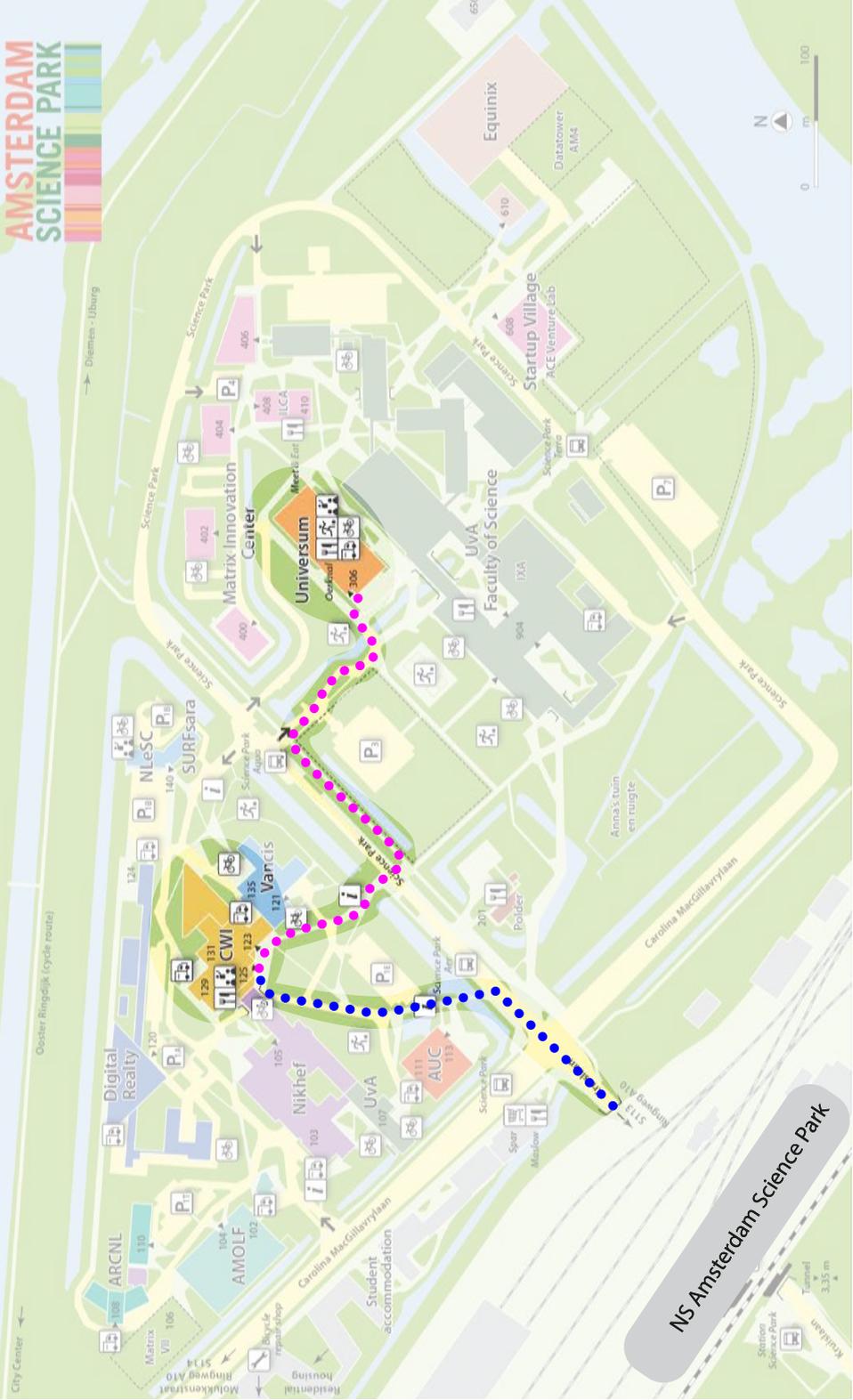
Martijn Bart
Institute for Biodiversity
& Ecosystem Dynamics



WAGeningen
UNIVERSITY



Jeroen Alkema
Plant Science Group
Laboratory of Entomology



NS Amsterdam Science Park

3.35 m

- Entrance
- 111 House number
- Main entrance building
- Delivery entrance
- Railway station
- Bus stop
- Car park
- Cycle parking/repair
- Conference-/meeting room
- Café-restaurant
- Sport accommodation
- Supermarket
- Walking route Trainstation - Conference Centre
- Walking route Conference Centre - Dinner Venue