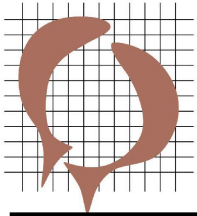


Foreword

By Wouter Halfwerk

Listening to a Great Tit singing outside my office, I wonder about the field of animal behavior and the people working in it. As Dutch behavioral biologist we can look back on a long-standing history, with many founding figures having worked at one of our institutes. I sometimes have the feeling we do not stress our historical basis enough, not to ourselves nor to our colleagues working in different disciplines. Can someone show me a statue of Niko Tinbergen? The building in Leiden where he used to work is now a fancy home for the 'urbanites', nothing reminding us of our only Life science Nobel laureate. So far for scientific legacy. Behavior is sometimes viewed as 'messy', perhaps a bit old-fashioned and hard to get a good hold on. It's also a bit difficult to make money with it (contra molecular sciences), unless you work on issues like crowd-control. But perhaps the general attitude towards the study of behavior will slightly start to change, starting with the newly NWO organized [Life2019](#) conference, from 26th -27th of May. The theme is communication, and who would be more suited to tackle this issue than a multi-disciplinary behavioral biologist? I was therefore pleased to see many NVG-ers on the program, showing the community what we can contribute to life sciences.

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Announcement of 2019 Annual Meeting

Coming 27-29th of November the annual meeting will be held for the second time at Egmond aan Zee. The meeting will be preceded by a PhD workshop. We have a first confirmed speaker, Susanne Åkesson, from Lund University, who will talk about **'Long-distance navigation in birds'**. Read more on her work and meeting [here](#).

This year, the organizing committee would like to try to organize the sessions slightly different compared to last years. As a consequence, we have moved the deadline for abstract submission, as well as the early bird registration a little earlier, to September 15th and September 29th respectively. Slots will be granted on a first come first serve basis, so make sure to submit your talk abstracts on time.

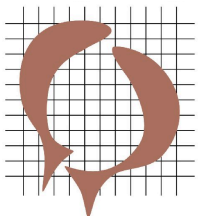
Report of 2018 Annual Meeting

For the 2018 meeting we moved to the coastal town of Egmond aan Zee where we enjoyed keynote lectures on decision-making in primates, animal welfare in chickens, behavioral syndromes in fish and autonomous robots. On Wednesday evening, the meeting was opened by Sarah Brosnan, Professor in Psychology, Philosophy and Neuroscience at Georgia State University. She talked about the evolution of decision-making behavior, using an experimental economic approach to compare responses across multiple species, primarily in non-human primates and human adults and children. On Thursday we enjoyed talks by Bas Rodenburg, Professor in Animal Welfare at Utrecht University, discussing behavioral indicators and methods where animals themselves can be 'asked' how they experience their living conditions. In the evening we were treated to the secret life of robots by Stefano Nolfi, director at the Institute of Cognitive Sciences and Technologies of the Italian National Research Council, or, how embodied and situated agents can develop behavioural and cognitive skills autonomously by adapting to their task/environment. In the evening, the very first NVG bowling competition kicked off,



Winning bowling team on mesmerizing dancefloor

where cross-institutional and cross-level teams competed against one and other. On Friday Christian Tudorache, assistant Professor at Leiden University, presented interesting data on the relation between chronotypes and personalities in zebrafishes. The meeting traditionally ended with the announcements of the winner of the best student talk and poster. Tom Roth, from Utrecht University won the prize for his talk on 'Social vigilance of friends and foes in zoo-housed western lowland gorillas' and



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Wang Xiaocui from the University of Groningen won the prize for her poster entitled 'What you eat determines where you reproduce'.

Report on the 2018 NVG workshop on Open Science

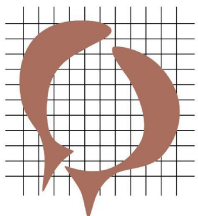
By Judith Varkevisser and Edwin de Laat

On the 28th of November 2018, the yearly Phd workshop took place at Hotel Zuiderduin in Egmond aan zee. The theme of this year's workshop was 'What is open science and why practice it?'. The workshop was attended by 19 students in different stages of their Phd and working at many different institutes. Like previous years, the workshop was organized by Jean-Christophe Billeter.

The meeting was supposed to be opened with a one hour lecture on open science by dr. Antica Culina, but because she was ill, Antica could not attend the meeting. Luckily, Antica had send her powerpoint presentation to Jean-Christophe, who went through the presentation with us. In her presentation, Antica gave an overview of the many advantages of practicing open science. Besides, she gave examples of tools that should make it easier to create openness in different parts of the scientific process, such as different repositories that can be used to store publicly accessible data. We discussed the advantages and disadvantages of the preregistration of studies, a practice that is also supposed to lead to more openness in science. A *preregistered hypothesis can be retracted when it doesn't match with the data. This is not a problem, it is scientifically even better to replace the first with a better hypothesis.*

The lecture was followed by presentations from various phd-students. These students discussed the background of their research project, their experimental design, and some preliminary data. The students giving a presentation were Jing Wei (Effect of early rearing environment on model choice and song learning in zebra finches), Yoran Gerritsma (Parsing the developmental plasticity of personality in zebra finchs), Alexander Hutfluss (Individual differences in the predictability of birdsong: Is stable singing a signal of quality?), Edwin de Laat (Role models for juvenile monkeys: are they learning from experienced adults or from peers?) and Xiaocui Wang (Food-dependent divergent adaptation in *Drosophila melanogaster*). Each presentation was followed by a discussion. The presentation of Jing Wei, for example, was followed by a discussion on which method to use for comparing zebra finch songs, and the presentation of Yoran Gerritsma was followed by a discussion on animal personality tests. As Edwin de Laat is applying for a teacher's grant at NWO, his presentation was also followed by some feedback for his interview at NWO.

The day ended with a round table discussion in which all PhD-students participated. The discussion started with some general tips and advice from students that are close to finishing their PhD research and that might be useful for students that just



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started. For example, to keep anything you have ever written, as you never know whether you might still need it at some point. Other advice was to try and publish the first article in your second year to lower the stress level. Furthermore, we discussed how we perceive our careers in science, with respect to competition, uncertainty and workload. Finally, we came back to the topic of open science, by discussing whether the students are planning to implement this in their current project.

Oratie Bas Rodenburg

OneWelfare: dierenwelzijn in balans met mens, milieu en maatschappij

Bas Rodenburg, Hoogleraar Dierenwelzijn aan de Faculteit Diergeneeskunde van de Universiteit Utrecht, heeft op 2 april zijn oratie uitgesproken gericht op OneWelfare, wat de relatie benadrukt tussen dierenwelzijn, welbevinden van mensen en de impact op het milieu. Volgens Rodenburg is OneWelfare een bruikbaar concept om te kijken naar mens-dier relaties, maar ook om te kijken naar de veehouderij van de toekomst.

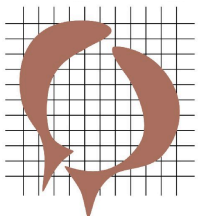
De veehouderij staat de komende jaren voor een aantal uitdagingen. Door de overgang naar een meer duurzame, circulaire landbouw wordt er meer gevraagd van het aanpassingsvermogen van dieren. Ook veranderen veehouderijsystemen onder invloed van de maatschappij. Dieren worden vaker in grote groepen gehouden en ingrepen om probleemgedrag te voorkomen zijn niet langer toegestaan. Om aan die uitdagingen te voldoen moeten we naar veehouderijsystemen die ruimte bieden aan de natuurlijke behoeftes van de dieren en hun aanpassingsvermogen ondersteunen. Daarnaast hebben we dieren nodig die goed om kunnen gaan met die complexere omgeving en zich daar goed in voelen.

Sensortechnologie

Vanuit het dierenwelzijnsonderzoek wil Rodenburg nieuwe methodes ontwikkelen om in nieuwe veehouderijsystemen het gedrag en welzijn van dieren te monitoren.



Sensortechnologie biedt hiervoor steeds meer mogelijkheden en geweldige kansen om het aanpassingsvermogen en het welzijn van individuele dieren continu te monitoren. Volgens Rodenburg kan dit veel opleveren voor zowel dierenwelzijns- als voor diergezondheidsonderzoek en onderwijs.



Belangrijk thema

Dierenwelzijn speelt een centrale rol bij de faculteit Diergeneeskunde. Issues op het gebied van dierenwelzijn zijn immers vervlochten met talloze onderwerpen en dilemma's binnen de wetenschap, samenleving en het dierenartsenberoep. Naast Bas Rodenburg is Saskia Arndt binnen de Faculteit Diergeneeskunde actief als Hoogleraar Diergedrag. Arndt en Rodenburg werken samen op gebied van gedrag en welzijn van dieren. Bas Rodenburg is in dienst als Hoogleraar Dierenwelzijn sinds 1 mei 2018.



PhD Dissertations

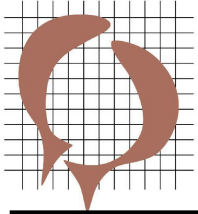
By Elodie Wilwert and Tiziana Gobbin

Daniel Shane Wright successfully defended his PhD thesis "The role of visual adaptation in cichlid fish speciation" on the 29th of March at University of Groningen. We are all proud of him for his nice and interesting thesis! Congratulations!

The examination committee was composed by: Prof. Ole Seehausen (University of Bern), Prof. Astrid Groot (University of Amsterdam), Prof. Mike Ritchie (University of St. Andrews), Prof. Sander van Doorn (University of Groningen), Prof. Franjo Weissing (University of Groningen).

The thesis used behavioural assays, colour analysis, visual system characterization, and field surveys to examine the role of visual adaptation in speciation, by testing predictions of the sensory drive hypothesis in *Pundamilia* cichlids. Light manipulations affected both visually-mediated behaviour (female mate preference) and visual system development (relative opsin expression). Genotyped females for variation in the LWS opsin show that it too covaried with female preference behaviour. In wild populations, species-specific patterns of opsin expression did not consistently align with opsin genotype, male colour, and female preference. Together, these results suggest that opsin genotype, rather than expression, may act as the causal link between colour perception and mate preference.





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New PhD students

Hugo Loning



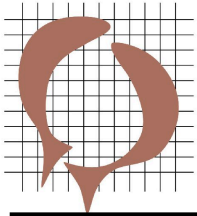
Throughout my studies in Leiden University (Bachelor) and Wageningen University (Master), I have developed a special interest in animal communication and environmental acoustics by working on bird song, bat ecology and frog mating calls. Now, I am a first year PhD candidate at Marc Naguib's Behavioural Ecology Group in Wageningen where I study the song of wild zebra finches in a collaborative project with Simon Griffith at

Macquarie University, Australia. Zebra finches are the world's most studied songbird in the lab and we have extensive knowledge of how their song functions in mate attraction. However, in the unpredictable and arid Australian outback, their natural habitat, these non-territorial birds establish a faithful pair bond early in life but nevertheless keep singing throughout their adult life in a variety of contexts, such as social gatherings. It is currently unclear what the function of all this singing is and in my PhD I will investigate whether their song might function as a signal for attaining breeding synchrony in these unpredictable conditions. Fieldwork is conducted at Fowlers Gap Arid Zone Research Station in New South Wales, Australia, home of the world's only nest-box population of zebra finches.

Judith Smit

Hola! My name is Judith Smit and I'm curious why animals do what they do. Recently I started my PhD at Animal Ecology at the Vrije Universiteit Amsterdam. Here I'm studying the evolution of animal communication in the context of urbanisation, which is rapidly changing the environment on a global scale. My project focusses on how communication systems and associated traits evolve in response to urban sensory conditions (such as traffic noise and artificial light). There has been ample of studies that animals in cities differ from their rural conspecifics in their communication, such as louder or higher pitched vocalisations. It is largely unknown, however, how these differences arise, if they are adaptive and what the evolutionary





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consequences are. To find answers to these questions I conduct experiments on the acoustic communication in túngara frogs in the rainforest in Panama.

Paper highlight

Studying individual variation in animal behaviour can provide new insights into fundamental aspects of human personality and well-being. In humans, personality traits have been associated with physiological and genetic makeup. This is also found in animals, where these consistent correlations between behavioural and physiological traits are termed coping styles, and can vary along a continuum between proactive and reactive extremes. In general, proactive individuals are e.g. more risk-taking and aggressive and have higher baseline metabolic rates than reactive individuals. The underlying molecular differences between coping styles, nevertheless, are still unclear. By using transcriptome analysis on brains of proactive and reactive zebrafish (*Danio rerio*), Tudorache et al. (BMCBiology, 2018) predominantly found differences in the expression of genes that are involved in the regulation of the biological clock. Their further investigation into individual differences in the functioning of the biological clock at different levels of biological function revealed a consistent variation in diurnal rhythm strength and amplitude: The expression of clock-related genes, melatonin and cortisol levels, and behavioural activity showed a robust rhythmicity in proactive individuals and a complete absence of rhythmicity in reactive individuals. These results demonstrate that profound differences in diurnal rhythmicity occur within a population, and that these differences are associated with the personality of the individual. Since dysregulation of the biological clock has been shown to contribute to the pathogenesis of many personality disorders, this study provides new insights for understanding and treatment of these diseases.

The next newsletter is planned for September 2019.