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**The music of language : exploring grammar, prosody and rhythm perception in zebra finches and budgerigars**  
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## CURRICULUM VITAE

### Profile

Date of birth 18-07-1987  
Place of birth Voorburg, Netherlands  
Scientific interests Animal cognition, Auditory production & perception,  
Comparative cognition

### Education

1999-2005 VWO, St. Gregorius College, Utrecht

2006-2009 BSc Biology, Leiden University

*Internship at Behavioural Biology, Leiden University.*

Under supervision of dr. Katharina Riebel I studied the social learning strategies of zebra finches from different brood sizes. This work resulted in a publication in *Animal Behaviour*.

2009-2011 MSc Neuroscience and Cognition, Utrecht University

*Internship at Behavioural Biology, Utrecht University*

Under supervision of dr. Simon Reader I studied whether guppies could learn different foraging strategies dependent on the context.

*Internship at Experimental Psychology, Cambridge University*

During this internship I studied theory of mind in rooks, a corvid species under supervision of prof. Nicola Clayton.

*Honours track in entrepreneurship*

During this honours track we learned to set up innovative projects and how to develop as an entrepreneur.

2012-2016 PhD, Behavioural Biology, IBL, Leiden University

Under supervision of prof. dr. Carel ten Cate I studied cognitive abilities related to language perception in two bird species, zebra finches and budgerigars. This work was conducted as part of an interdisciplinary project group with developmental linguists and

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computational linguists. All zebra finch and budgerigar studies were conducted at Leiden University. Four months of the project were spent at the University of Trento to work together with prof. Giorgio Vallortigara and dr. Elisabetta Versace on perception of chicks. During my PhD I supervised several BSc and MSc students during their internships and I presented my work at several national and international conferences. Furthermore, I was closely involved in the designing, realization and implementation of new skinnerboxes and a new software program. This PhD project was funded by NWO-GW grant 360.70.452.

## **Grants and Awards**

*Hurford prize, Evolang, New Orleans, 2016*

Best presentation at Evolang, an international conference on the evolution of language.

*Famelab National Final, 2015*

Famelab is an international science communication competition, in which young scientists explain their research to a laymen's audience in just three minutes.

*Presentation award at the NVG conference, Netherlands, 2015*

Best presentation at NVG, a national conference on animal behaviour.

*LUF Travel Grant*

Leiden University travel grant to visit the Behaviour conference in Cairns, Australia, 2015

## **Outreach**

During my PhD I have presented my work on several public events in and outside of the Netherlands. Furthermore, I have explained my work on national television, national and international radio stations and in several newspapers.





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## PUBLICATIONS

Geambasu, A.\*, **Spierings, M.J.\***, ten Cate, C. & Levelt, C.C. (in preparation) Tell me what to learn: The effects of task-specific variables on artificial grammar learning and generalization. \* authors share first authorship

Versace, E.\*, **Spierings, M.J.\***, ten Cate, C. & Vallortigara, G. (in preparation) Imprinting generalization of patterns in young domestic chicks. \* authors share first authorship

**Spierings, M.J.**, Hubert, J. & ten Cate, C. (under review) Selective auditory grouping by zebra finches: testing the Iambic-Trochaic law.

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Kriengwatana, B., **Spierings, M.J.** & ten Cate, C. (2016) Auditory discrimination learning in zebra finches: Effects of sex, early life conditions and stimulus characteristics. *Animal Behaviour*, 116, 99-112.

**Spierings, M.J.**, de Weger, A. & ten Cate, C. (2015) Pauses enhance chunk recognition in song element strings by zebra finches. *Animal cognition*, 18(4), 867-874.

**Spierings, M.J.** & ten Cate, C. (2014) Zebra finches are sensitive to prosodic features of human speech. *Proceedings of the Royal Society of London B: Biological Sciences*, 281(1787), 20140480.

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## **Conference proceedings**

**Spierings, M.J.** & ten Cate, C. (2016) Rule Learning In Birds: Zebra Finches Generalize By Positional Similarities, Budgerigars By The Structural Rules. In S.G. Roberts, C. Cuskley, L. McCrohon, L. Barceló-Coblijn, O. Fehér & T. Verhoef (eds.) *The Evolution of Language: Proceedings of the 11th International Conference (EVOLANG11)*.

Geambasu, A., **Spierings, M.J.**, ten Cate, C. & Levelt, C.C. (2016) Effects Of Task-specific Variables On Auditory Artificial Grammar Learning And Generalization. In S.G. Roberts, C. Cuskley, L. McCrohon, L. Barceló-Coblijn, O. Fehér & T. Verhoef (eds.) *The Evolution of Language: Proceedings of the 11th International Conference (EVOLANG11)*.

**Spierings, M.J.** & ten Cate, C. (2014) Element string segmentation by zebra finches. In Lišková, S. & Varadínová, Z. (Eds.) *The 7th European Conference on Behavioural Biology 2014*.

**Spierings, M.J.** & ten Cate, C. (2014) Prosodic cue weighting by zebra finches. In Cartmill, E. A., Roberts, S. G., Lyn, H., & Cornish, H. (Eds.) *The Evolution of Language: Proceedings of the 10th International Conference (EVOLANG10)*.

Geambasu, A., Levelt, C.C., **Spierings, M.J.** & ten Cate, C. (2014) Artificial grammar learning in infants, adults, and songbirds: What is shared, what is learned? In Cartmill, E. A., Roberts, S. G., Lyn, H., & Cornish, H. (Eds.). *The Evolution of Language: Proceedings of the 10th International Conference (EVOLANG10)*.



