SIMEON QUIRINUS SMEELE

CONTACT INFO

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ABOUT ME

I'm an IMPRS doctoral student at MPI Animal Behaviour and MPI Evolutionary Anthropology. I'm broadly interested in the evolution of complex cognition and culture. More specifically I focus on the emergence of socially learned vocal behaviours in parrots. I study vocalisations and social behaviour of the monk parakeet, an invasive parrot in many European cities. I also do comparative work trying to link vocal complexity, social complexity, brain size and longevity across parrots. I'm supervised by Dr. Lucy Aplin and Dr. Mary Brooke McElreath.

EDUCATION

Master of Biology **2016-2018**

University of Southern Denmark | *Odense, Denmark*

- Courses in behavior, bio-acoustics, terrestrial ecology, statistics, research projects, Matlab, sound and hearing, marine mammals, biodiversity.
- Thesis topic: "Pinniped cognition: the ability to recall own behaviour on cue"

Bachelor of Biology (minor in Mathematics) **2013-2016**

University of Southern Denmark | *Odense, Denmark*

- Courses in zoology, botany, ecology, ecotoxicology, statistics and mathematics.
- Thesis topic: "Spatial memory in Daubenton's bats"

EXPERIENCE

IMPRS doctoral researcher **2019 - current**

Max Planck Institute of Animal Behavior and Max Planck Institute for Evolutionary Anthropology | *Radolfzell, Germany*

- Parrot vocal and social complexity
- Supervisors: Dr. Mary Brooke McElreath and Dr. Lucy Aplin

Staff member 2022
Museum Haus Otto Dix | *Hemmenhofen, Germany*

- Helping visitors (in German) in the museum during weekends in the summer season

Research assistant 2019
University of Southern Denmark | *Odense, Denmark*

- Analysing large datasets on species demography and conservation
- Supervisor: Professor Dalia Amor Conde

Study group supervisor 2015-2017
University of Southern Denmark | *Odense, Denmark*

- Helping first year Natural Science students work in groups

Teaching assistant 2014-2015
University of Southern Denmark | *Odense, Denmark*

- Teaching first year Natural Science students in the general biology course

VOLUNTEERING

Research assistant (internship) 2018 - 2019
University of Southern Denmark and Fuglezoo | *Odense, Denmark*

- Co-supervising master student working on cooperative and vocal behaviour in parakeets
- Supervisor: Professor Ole Næsby

Animal trainer 2017 - 2018
Marine Biological Research Centre | *Kerteminde, Denmark*

- Training grey seals, great cormorants and common murres
- Assisting with data collection for psychophysics, conservation and cognition
- Supervisor: Dr. Kirstin Anderson Hansen

Trainer and member general board 2014 - 2018
Odense SportsKlatreKlub (climbing gym) | *Odense, Denmark*

- Training the youth elite team, adult advanced team and schools
- Moving the club to new facilities and setting up the new management structure

Field assistant 2014
University of Southern Denmark | *Odense, Denmark*

- Collecting data from tit nest boxes
- Conducting observational study of great tit foraging behaviour
- Supervisor: Prof. Owen Jones

TEACHING

VtK biology field course 2021

Max Planck Institue of Animal Behavior | *Radolfzell, Germany*

- Gave a lecture on bio-acoustics and co-supervised a group of master students working on local dialects and aggression in great tits

General introduction biology 2014-2015

University of Southern Denmark | *Odense, Denmark*

- I worked as a teaching assistent during the biology part of a larger course that introduced natural science student to different subjects in the wider field
- I had the responsibility for groups of 20-30 students that worked on exercises and presented the solutions

ACHIEVEMENTS

Awards

- 2022 Small Cluster Grant CASCB (€ 10,000)
- 2021 Small Cluster Grant CASCB (€ 10,000)

ACTIVITIES

Peer reviews

- 2023 Methods in Ecology and Evolution
- 2022 PLOS Computational Biology
- 2022 Scientific Reports
- 2022 Ethology
- 2022 Ethology
- 2022 Scientific Reports
- 2021 Ecology and Evolution

Organisation

- 2021-current Preprint Team, Proceedings of the Royal Society
- 2021-current member Sustainability Group MPI-AB
- 2021 co-host Virtual ESLR Workshop (GatherTown)
- 2021 co-host Virtual IMPRS Grand Challenges Symposium (Zoom)
- 2020-2022 external PhD representative Max Planck Institute of Animal Behavior

PUBLICATIONS

2023

- **Smeele, S. Q.**, Senar J. C., Aplin, L. A. & McElreath, M. B. (2023). **Evidence for vocal signatures and voice-prints in a wild parrot**. BioRxiv. https://doi.org/10.1101/2023.01.20.524864
- **Smeele, S. Q.***, Tyndel, S. A.*, Klump, B. C., Alarcon-Nieto, G. & Aplin, L. M. (2023). **callsync: an R package for alignment and analysis of multi-microphone animal recordings**. BioRxiv. https://doi.org/10.1101/2023.02.07.527470 [* co-first author]
- Mooney, A., Teare, J. A., Staerk, J., **Smeele, S. Q.**, Rose, P., Edell, R. H., King, C. E., Conrad, L., & Buckley, Y. M. (2023). **Flock size and structure influence reproductive success in four species of flamingo in 540 captive populations worldwide**. Zoo Biology, 1–14. https://doi.org/10.1002/zoo.21753

2022

- **Smeele, S. Q.**, Conde, D. A., Baudisch, A., Bruslund, S., Iwaniuk, A., Staerk, J., Wright, T. F., Young, A. M., McElreath, M. B. & Aplin, L. M. (2022). **Coevolution of relative brain size and life expectancy in parrots**. Proceedings of the Royal Society B, 289(1971), 20212397. https://doi.org/10.1098/rspb.2021.2397
- **Smeele, S. Q.** (2022). **Using relative brain size as predictor variable: Serious pitfalls and solutions**. Ecology and Evolution, 12, e9273. https://doi.org/10.1002/ece3.9273
- **Smeele, S. Q.***, Tyndel, S. A.*, Aplin, L. A. & McElreath, M. B. (2022). **Multi-level analysis of monk parakeet vocalisations shows emergent dialects between cities in the European invasive range**. BioRxiv. https://doi.org/10.1101/2022.10.12.511863[*co-firstauthor]
- Bergler, C., **Smeele, S.Q.**, Tyndel, S.A. et al. **ANIMAL-SPOT enables animal-independent signal detection and classification using deep learning**. Sci Rep 12, 21966 (2022). https://doi.org/10.1038/s41598-022-26429-y
- Torres Ortiz, S., **Smeele, S.Q.**, Champenois, J. & von Bayeren A. M. P. (2022). **Memory for own actions in parrots**. Sci Rep 12, 20561. https://doi.org/10.1038/s41598-022-25199-x

2021

- Cantor, M.*, Chimento, M.*, **Smeele, S. Q.***, He, P., Papageorgiou, D., Aplin, L. M., & Farine, D. R. (2021). **Social network architecture and the tempo of cumulative cultural evolution**. Proceedings of the Royal Society B, 288(1946), 20203107. https://doi.org/10.1098/rspb.2020.3107 [* co-first author]

2020

- Nielsen, R. O., da Silva, R., Juergens, J., Staerk, J., Sørensen, L. L., Jackson, J., **Smeele, S. Q.**, & Conde, D. A. (2020). **Standardized data to support conservation prioritization for sharks and batoids (Elasmobranchii)**. Data in brief, 33, 106337. https://doi.org/10.1016/j.dib.2020.106337
- Bergler, C., Schmitt, M., Maier, A., **Smeele, S.**, Barth, V., & Nöth, E. (2020, October). **ORCA-CLEAN: A Deep Denoising Toolkit for Killer Whale Communication**. In INTERSPEECH (pp. 1136-1140). http://dx.doi.org/10.21437/Interspeech.2020-1316

2019

- **Smeele, S. Q.**, Anderson Hansen, K., Ortiz, S. T., Johansson, F., Kristensen, J. H., Larsson, J., Siebert, U. & Wahlberg, M. (2019). **Memory for own behaviour in pinnipeds**. Animal cognition, 22(6), 947-958. https://doi.org/10.1007/s10071-019-01286-x

CONFERENCES

CES Hybrid Conference **2022**
Aarhus University, Denmark

- Presented our work on vocal behaviour in monk parakeets

ASAB Easter Virtual Meeting **2021**
University of Bristol, UK

- Presented our work on life expectancy and brain size in parrots

SKILLS

● ● ●	R, LaTeX, Microsoft Office, GitHub, acoustic analysis, comparative statistics
● ● ○	Python, Bash, Git, Bayesian statsistics, teaching and supervision
● ○ ○	Matlab, international collaborations

Languages

- English (fluent)
- Danish (fluent)
- Dutch (fluent)
- German (intermediate)

REFERENCES

Dr. Lucy M. Aplin
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Department of Migration
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Dr. Mary Brooke McElreath
Research Scientist
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