

Will Schneider

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Education

PhD 2014 – 2017	University of St Andrews, School of Biology Research on the social and movement behaviours of Hawaiian field crickets to understand mating system dynamics. For this project I designed, built, and conducted experiments using a multi-camera tracking system, writing custom algorithms to automatically track crickets in relative darkness, on grass, within a 12 m ² arena.
MEng 2010 – 2014	University of York, Dept. of Electronics Electronic Engineering with Digital Media Systems, [2:1] For my Masters project I built a computer vision system on the Raspberry-Pi, tracking custom-made barcodes on snails.
A levels 1997-2009	Blue School, Wells, Somerset Computing[A], Maths[B], Geography[C]

Selected employment history

2021 – present	Research Associate, Bangor University, School of Natural Sciences Movement ecology and magnetoreception of migratory bats, with fieldwork in Latvia. [Principle Investigators: Prof. Richard Holland and Dr Oliver Lindecke].
2017 – 2020	Research Associate, University of Cambridge, Dept. of Physiology, Development and Neuroscience Investigation of behavioural and neurological signs of Huntington's disease in sheep. Development of signal processing techniques for novel EEG analysis. Conducted long-term behavioural experiments on memory and learning in transgenic sheep using an automated, two-choice touch screen operant system. Studied eye movement abnormalities using an oculometer, heart-rate using ECG biologgers, movement monitoring, body heat using a thermal camera, effects of modulated pink noise on sleep, and all night sleep deprivation experiments. [PI : Prof. Jenny Morton].
Summer 2013	Internship, University of York, Dept. of Electronics Developed and built an ARM-based microphone device capable of compressing sound frequencies of up to 80kHz into an audible range for listening to insects and bats. [PI: Dr David Chesmore]
2011 – 2016	Crew, Festival Vision Technical production, camera operation and rigging.
2007 – 2012	Junior Engineer, Alexsys Communications Ltd. Technical assistance in IT solutions

Conference presentations

- [Poster] Sleep Spindling Conference, Hungary, 2018.
- [Talk] Invertebrate Sound and Vibration Conference, Germany, 2017.
- [Talk online] SFB 1372 Symposium for Young Researchers, Germany, 2021.

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[Talk] Royal Institute for Navigation Conference, London, 2023.

[Panel member] Career Discussion Panel, ASAB, Bangor 2023.

Publications (researchgate.net/profile/Will_Schneider)

[in review – *Commun Biol*] - **Schneider WT** et al., What does magnetic sensor error really mean?

[in revision – *Ecology Letters*] - **Schneider WT** et al., Behavioural plasticity compensates for adaptive loss of cricket song.

[2023 – accepted 07/11/23] - **Schneider WT** et al., Migratory bats are sensitive to magnetic inclination changes during compass calibration period. *Biology Letters*.

[2023] - McBride S, Ober J, Dylak J, **Schneider WT**, Morton AJ. Oculomotor abnormalities in a sheep (*Ovis aries*) model of Huntington's disease: towards a biomarker for assessing therapeutic efficacy. *Journal of Huntington's Disease*, 1-12

[2023] - **Schneider WT** et al., Sense of doubt: inaccurate and alternate locations of virtual magnetic displacements may give a distorted view of animal magnetoreception ability. *Commun Biol*. 6, 187

[2023] - **Schneider WT** et al., Over 50 years of behavioural evidence on the magnetic sense in animals: what has been learnt? *Eur. Phys. J. Spec. Top.* 232, 269-278

[2021] - **Schneider WT** et al., Abnormally abrupt transitions from sleep-to-wake in Huntington's disease sheep (*Ovis aries*) are revealed by automated analysis of sleep/wake transition dynamics. *PLOS ONE*, 16(5): e0251767

[2020] - Sorby-Adams A J, **Schneider WT** et al., Measuring executive function in sheep (*Ovis aries*) using visual stimuli in a semi-automated operant system. *JNEUMETH*, Volume 351, 109009

[2020] - Rayner JG*, **Schneider WT***, Bailey NW. Persistence of singing effort after morphological song loss in Hawaiian cricket populations. *Biology Letters*, 1620190931 *contributed equally

[2020] - Vas S, Casey JM, **Schneider WT**, Kalmar L, Morton AJ. Wake-promoting and EEG spectral effects of modafinil after acute or chronic administration in the R6/2 mouse model of Huntington's disease. *Neurotherapeutics*, 17, 1075–1086

[2020] - **Schneider WT** et al., Characterising sleep spindles in sheep. *eNeuro*, 7(2), ENEURO.0410-19.2020

[2018] - **Schneider WT** et al., Vestigial singing behaviour persists after the evolutionary loss of song in crickets. *Biology Letters*, 14(2), p.20170654

[thesis] - Investigating the behavioural consequences of evolutionary signal loss in the context of a naturalistic environment.

Grants awarded

[2022] – £3400 - Co-author on a Welsh Crucible grant (The Breath of Life: using biogeochemistry to quantify and manipulate the gas exchange of entire ecosystems)

[2022] – £5183 - Co-author on a Welsh Crucible grant (The Medieval Future of Sleep: Trialling lessons from the past for enhancing sleep, reducing disease, and improving mental health in post-Covid Wales)

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Referees

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supervisor)

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