

Dr William P. Kay | Movement Ecologist and Lecturer

 [@willpkay](https://twitter.com/willpkay)  willpkay.weebly.com

Academic Qualifications

2021 PhD (Biology) “Seal movements in tidally energetic environments” Minor corrections. Swansea University
2015 MSc Res (Animal Movement Science) “Harbour seal foraging ecology” No corrections. Swansea University
2013 City and Guilds Professional Development Award (in *Wildlife and Conservation*)
2013 BSc Hons (Marine Biology) First Class. Swansea University

Employment History

July 2021-present [Tutor in Data Analysis and Statistics](#), School of Biosciences, Cardiff University
July 2020-July 2021 Research Technician, Seagrass Ocean Rescue (SOR), Biosciences Dept., Swansea Uni
Dec 2019-Apr 2020 Grant Development Officer, SOR, Department of Biosciences, Swansea University, UK
Jun 2019-Sep 2019 Research Assistant, SEACAMS2, Department of Biosciences, Swansea University, UK
Jan 2019-Jun 2019 Teaching Lecturer (HE Level 6), Department of Biosciences, Swansea University, UK
Apr 2017-Sep 2017 Science Policy Intern, The Royal Society, 6-9 Carlton House Terrace, London, SW1Y 5AG
Aug 2016-Aug 2017 Postgraduate Research Rep, College of Science, Swansea University, UK
Jan 2016-Nov 2021 Doctoral Researcher, Department of Biosciences, Swansea University, UK
Sep 2013-July 2020 Student Demonstrator, Department of Biosciences, Swansea University, UK

Profile and Research Interests

I am a Movement Ecologist with a broad background in ecology and extensive skills in fieldwork, data analysis and statistics, science policy, and teaching. To best utilise my expertise, I seek a Teaching & Research role in an ecological discipline. My main asset is my combination of proficiency in high level research and analytical skills, and field methods (including in remote locations), complemented by professional experience and commercial qualifications (such as seamanship and HSE SCUBA diving, including instructional techniques). My research interests lie in quantifying drivers of individual- and population-level animal movement and behaviour to predict the impact of anthropogenic disturbance and environmental change. Also, to develop new tools and methods to study this, and so to derive recommendations for policy and conservation management.

Supervision and Tutoring

PhD student Tutoring 1 student from Wildlife Institute of India in advanced hidden Markov statistical analysis
MSc student Co-supervised 3 students to completion in movement ecology (1) and mathematics (2).
MRes students Tutored 2 MRes students in telemetry device design (both successful MRes defence).
BEng students Co-supervised 2 BEng students in co-author publication (Kay et al. 2019; see Publications)
BSc students Supervising 5 BSc students in literature projects.
Other 20 undergraduates tutored in dissertation projects at British Ecological Society Summer School (2017 & 2018); numerous undergraduates tutored at Statistics Help Desks/UG Data Clinics.
Private Tutoring A-level and GCSE student in Mathematics, Science, English, and History.

Teaching and Workshops

HE Level 8 Cardiff University – Tutor: SWBio DTP Statistics Week - led organisation and delivery of week-long intensive statistics week (co-designed course content).
HE Level 7 Cardiff University – Tutor: BIT010 Data Handling and Statistics; BIT050 Field Skills for Ecology and Conservation; BIT053 Data Science; Swansea University - Demonstrator: BIOM25B Skills and Statistics, BIOM33B Movement Ecology
HE Level 6 Cardiff University – Tutor: BI3001 Final Year Project; BI3153 Evolution and Adaptation. Swansea University - Lecturer: BIO318 Ecology of Marine Animals - designed and delivered lecture material, set exam questions, marked exams. Overall module feedback score: 4.3/5.
Demonstrator - BIO334 Advanced Data Analysis, BIZ300 Collective Animal Behaviour
HE Level 3-5 Swansea University - Demonstrator: BIO252 Ecological Data Analysis, BIO228 Parasitology, BIO109 Core Skills for Biological Sciences, BIO106 Ecology and Animal Behaviour, BIO105 Animal Diversity, Form and Function, BIO14 Research Skills for Biologists.
Workshops Best Practice in Tagging Cetaceans and Pinnipeds (WMMC), Policymaking for Ecologists, Ecological Ethograms, Designing a Research Project (BES Summer School 2017, 2018); International Movement Ecology Workshop (PR Statistics, Margam, 2018), Intro into R (Swansea)

Grants and Scholarships (Total: £71.8k)

2021	SMM Student Travel Grant (\$700)
2021	The Worshipful Livery Company of Wales Travel Scholarship (£1000)
2020	Swansea Paid Internship Network (SPIN; 1.3k)
2015-2020	UKIRSC Travel Grant (Annual; £1k)
2019	World Marine Mammal Conference Student Travel Grant (€55)
2019	UKIRSC Conference Grant (Swansea University; £1k)
2019	KESS II Training and Travel Grant (£1.65k)
2019	Erasmus+ Mobility Funds for international FIELD Workshop (£1.1k)
2018	European Cetacean Society Travel Grant (€150)
2017	Royal Society of Biology (RSB) Travel Grant (£500)
2016	KESS II Equipment Grant (£2.7k)
2016	ESF Travel Scholarship for KESS European Industrial Doctoral School (£1k)
2016	KESS II PhD Scholarship (Swansea University; £45.8k)
2014	Swansea University Postgraduate Scholarship (Swansea University; £2.9k)
2012	Employability Academy Travel Scholarship (Swansea University; £1.5k)
2011	Excellence Scholarship for Academic Attainment (Swansea University; £1k)
2010	Excellence Scholarship for Undergraduate Study (Bangor University - Declined; £9k)

Awards

2019	Nominated for the British Ecological Society (BES) Robert May Prize
2019	Nominated for Swansea University Postgraduate Research and Innovation Rising Star
2019	Best Research Poster at UKIRSC XIII 13th Annual Conference (£25)
2018	Best Oral Presentation Prize at WEEN Annual Conference 2018 (£50)
2018	Best Research Poster Prize at BES Movement Ecology SIG Annual Meeting 2018 (£50)
2018	Third Place Prize for Research Poster at Swansea University PGR Poster Competition 2018
2018	Best Short Oral Presentation at ECS 32nd Annual Conference 2018 (€150)
2017	Ede and Ravenscroft Anniversary Student Prize 2017 for Outstanding Contribution (£250)
2017	Third Place Prize for Swansea University Research Institute of Ethics and Law Competition (£200)
2017	Research Poster Finalist at Swansea University PGR Competition 2017
2017	Honorary Lifetime Membership of Swansea University Students' Union (SUSU)
2016	Best Research Poster Prize at KESS II Transnational Graduate Training School
2016	Best Research Poster Prize at Swansea University PGR Poster Competition 2016
2013	Graham Ralston Memorial Prize for Marine Biology (£250)

Professional and Technical Qualifications

Animal Research	Animals (Scientific Procedures) Act 1986 – Home Office Personal License Holder
Seamanship	MCA Commercial Skipper SARA/RNLI Lifeboat Crew RYA Powerboat Instructor RYA Advanced Powerboat RYA Sea Survival RYA PPR & PB2 DSC VHF Radio Operator BSAC Boat Handling Instructor BSAC Diver Coxswain >2000hrs at sea
SCUBA Diving	Commercial HSE Diver (CMAS 3*) BSAC Advanced Instructor (Theory) BSAC Advanced Diver (CMAS 3*) BSAC Open Water Instructor BSAC Mixed Gas Blender BSAC Oxygen Admin PADI Rescue Diver PADI Emergency First Responder
First Aid	RNLI Casualty Care ITC Outdoor First Aid REC Remote First Aid BDMLR Marine Mammal Medic HSE First Aid at Work RYA First Aid at Sea

Invited Talks and Workshops

2021	Movement ecology of British seals	<i>OnE Divisional Seminar Series, Cardiff University</i>
2019	Policymaking for Ecologists Workshop	<i>UKIRSC XIII Annual Conference</i>
2018	Biologging and policymaking	<i>Wallace Coffee Talks, Swansea University</i>
2018	Policymaking, QGIS, R Statistics	<i>BES Undergraduate Summer School</i>
2018	Grey seal collision risk	<i>ECS 32nd Annual Conference Marine Renewable Session</i>
2017	Careers Outside Academia (Chair)	<i>BES Annual Meeting 2017</i>
2017	Introduction to policymaking for ecologists	<i>BioTalks@Swansea: Science Club</i>
2017	Academic Career Pathways for PhDs,	<i>Enhancing Bioscience Student Employability Workshop</i>
2016	A Day in the Life of a PhD Student	<i>Swansea University Postgraduate Applicant Day</i>
2016	Grey seals in tidal environments	<i>CIEEM Welsh Section Spring Seminar</i>
2015	Migraine with aura and PFO	<i>Diving on the Edge: Adventure, Technology, and Medicine</i>

Selected Conference Presentations and Posters

*prize winning

2020	Research Poster	<i>UKIRSC XIV Annual Conference</i>
2019	Speed Talk	<i>World Marine Mammal Conference (WMMC)</i>
2019	Oral Presentation	<i>Marine Environment Evidence Conference</i>
2019	Research Poster	<i>UKIRSC XIII Annual Conference</i>
2018	Oral Presentation	<i>Wales Ecology and Evolution Network Annual Meeting</i>
2018	Research Poster	<i>Movement Ecology Special Interest Group Annual Meeting</i>
2018	Research Poster	<i>Swansea University Poster Research Competition</i>
2018	Speed Talk	<i>European Cetacean Society (ECS) 32nd Annual Conference</i>
2017	Flash Talk & Poster	<i>British Ecological Society (BES) Annual Meeting</i>
2017	Oral Presentation	<i>European Cetacean Society (ECS) 31st Annual Conference</i>
2017	Oral Presentation	<i>Research Institute for Ethics and Law Annual Conference</i>
2017	Research Poster	<i>Swansea University Poster Research Competition</i>
2017	Research Poster	<i>Marine Energy Wales Inaugural Conference</i>
2017	Oral Presentation	<i>UKIRSC XI Annual Conference</i>
2016	Research Poster	<i>British Ecological Society (BES) Annual Meeting</i>
2016	Research Poster	<i>Swansea University Poster Research Competition</i>
2016	Research Poster	<i>KESS European Industrial Doctoral School (EIDS)</i>

Professional and Society Memberships

Higher Education Academy	Associate Fellow (AFHEA)
Oxford University Press (OUP)	Bioscience Student Panel Member
Swansea University Sub Aqua Club	Boating Officer, Instructor (ex. Dive Officer, Chair)
The International Bio-logging Society	Member
The British Ecological Society (BES)	Member, PhD Mentor, Ambassador, Member Rep
The BES Wales Policy Group (WPG)	Early Career Representative
The BES Movement Ecology SIG	Member
The Royal Society of Biology (RSB)	Member (MRSB)
The European Cetacean Society (ECS)	Member
The British Divers Marine Life Rescue (BDMLR)	Marine Mammal Medic

Key Fieldwork Experience

September-November 2020	Seagrass planting, HSE diving, Dale, <i>Seagrass Ocean Rescue</i>
August-September 2020	Seagrass collection, Porthdinllaen, <i>Seagrass Ocean Rescue</i>
February-March 2020	Seagrass restoration, Dale Bay, <i>Seagrass Ocean Rescue</i>
Autumn 2017, 2018, Spring 2018	Harbour seal capture and handling, deployment of telemetry devices <i>Institute for Terrestrial and Aquatic Wildlife, Büsum, Germany</i>
Autumn 2016, Spring 2017, 2018, 2019	Grey and harbour seal capture and handling, deployment of biologgers <i>Sea Mammal Research Unit, University of St Andrews, St Andrews</i>
June-July 2013	Seabird population monitoring <i>The National Trust for Scotland, Joint Nature Conservation Committee</i>
Nov-Dec 2012	Foraging ecology of magellanic penguins, tag deployments <i>Centro Nacional Patagónico (CENPAT), Argentina</i>

Publications

Peer-reviewed

- Williams, ..., **Kay, W. P.**, ..., Börger (2020) Optimizing the use of biologgers for movement ecology research. *Journal of Animal Ecology*. 89(1), 186-206
- Kay, W. P.**, Naumann, D. S., ..., Börger, L. (2019) Minimizing the impact of biologging devices: Using computational fluid dynamics for designing and positioning tags for minimal drag. *Methods in Ecology and Evolution*, **10**(8), 1222-1233.
- Wilson, R. P., Liebsch, N., Gómez-Laich, A., **Kay, W. P.**, ..., Siebert, U. (2015) Options for modulating intra-specific competition in colonial pinnipeds: the case of harbour seals (*Phoca vitulina*) in the Wadden Sea. **PeerJ**, 3:e957.

In preparation

- Kay, W. P.**, Bull, J. C., Stringell, T., Lock, K., Mortlock, E., Börger, L. Sex-dependent environmental drivers of grey seal pup dispersal and overlap risk with marine energy installations. Target journal: *Scientific Reports: completed - awaiting co-author approval for submission*.
- Kay, W. P.**, Börger, L., Stringell, T. B., Bull, J. C. Tidal drivers of pinniped movement and behaviour evaluated using Hidden Markov Models. Target journal: *Journal of Animal Ecology: In preparation*.