

Marianna Chimienti, PhD

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🌐 **Google Scholar:** <https://scholar.google.co.uk/citations?user=Z7C1uCMAAAAJ&hl=en>

I am an ecologist with both quantitative and individual based modelling expertise, driven by the desire of pushing forward the research fields of ecology, movement ecology, habitat conservation and species monitoring. I have successfully developed quantitative methods necessary to analyse high frequency and multi-dimensional movement data. I address ecological questions related to animals' movement processes, responses to changing environments and their link to population dynamics and life history strategies.

Education and Work Experience

- 2021 Marie Skłodowska-Curie Individual Fellowship – CNRS, Chizé, France
- 2020 Post-doctoral Researcher in Movement Ecology - Aarhus University, Denmark
- 2017 PhD in Ecology – University of Aberdeen, UK
Thesis: Foraging strategies of diving seabirds across scales: the use of high frequency tracking data to reveal movement decisions in dynamic environments.
- 2012 MRes (Distinction) – Applied Marine and Fisheries Ecology, University of Aberdeen, UK
Thesis: "Modelling the foraging behaviour of diving predators in complex and heterogeneous landscapes: the impact of renewable tidal devices on diving seabirds"
- 2010 MSc (Distinction) – Biology of Aquatic Systems, University of Naples "Federico II", Italy
Thesis: "Diving behaviour of juvenile loggerhead turtles (*Caretta caretta*) in captivity and in a natural bay"
- 2007 BSc – Environmental Biology, University of Bari "Aldo Moro", Italy.

Peer – reviewed Publications

- **Chimienti M.**, Desforges J.P., Beumer L.T., Nabe-Nielsen J., van Beest F.M., Schmidt N.M. Energetics as common currency for integrating high resolution activity patterns into Dynamic Energy Budget-Individual Based Models. (in review)
- **Chimienti M.**, van Beest F.M., Beumer L.T., Desforges J.P., Hansen L.H., Stelvig M., Schmidt N.M. Quantifying ungulates' behavior and life history events from year-long continuous accelerometer data. (in review)
- Beumer L.T., Pohle J., Schmidt N.M., **Chimienti M.**, Desforges J.P., Hansen L.H., Langrock R., Pedersen S.H., Stelvig M., van Beest F.M. (2020) An application of upscaled optimal foraging theory using hidden Markov modelling: year-round behavioural variation in a large arctic herbivore. *Movement Ecology* (in press)
- **Chimienti M.**, Blasi M., Hochscheid S. (2020) Movement patterns of large juvenile loggerhead turtles in the Mediterranean Sea: ontogenetic space use in a small ocean basin. *Ecology and Evolution* (in press)
- Schmidt N.M., Grøndahl C., Evans A., Desforges JP., Blake J., Hansen L., Beumer L.T., Mosbacher J., Stelvig M., Greunz E., **Chimienti M.**, van Beest F.M. (2020) On the interplay between hypothermia and reproduction in a high arctic ungulate. *Scientific Reports* 10:1514
- Desforges JP., Marques G.M., Beumer L.T., **Chimienti M.**, Blake J., Rowell J.E., Adamczewski J., Schmidt N.M., van Beest F.M. (2019) Quantification of the full lifecycle bioenergetics of a large mammal in the high Arctic *Ecological Modelling* 401, 27-39

- Campera M., Balestri M., **Chimienti M.**, Nijman V., Nekaris K.A.I., Donati G.. (2019) Temporal niche separation between the ecologically similar lemurs *Avahi meridionalis* and *Lepilemur fleuretae* revealed via three-axis accelerometers. *Behavioral Ecology and Sociobiology*, 73, 55.
- Hansson S.V., Grusson Y., **Chimienti M.**, Claustres A., Jean S., Le Roux G. (2019) Legacy Pb pollution in the contemporary environment and its potential bioavailability in three mountain catchments *Science of the Total Environment* 671, 1227-1236
- **Chimienti, M.**, Cornulier, T., Owen, E., Bolton, M., Davies, I.M., Travis, J.M.J. & Scott, B.E. (2017) Taking movement data to new depths: inferring prey accessibility and patch profitability from seabird foraging behaviour. *Ecology and Evolution*, 7, 10252-10265.
- Kafas A, McLay A, **Chimienti M**, Scott B.E., Davies I., Gubbins M. (2017) ScotMap: Participatory Mapping of Inshore Fishing Activity to Inform Marine Spatial Planning in Scotland. *Marine Policy*, 79, 8-18.
- **Chimienti, M.**, Cornulier, T., Owen, E., Bolton, M., Davies, I.M., Travis, J.M.J. & Scott, B.E. (2016) The use of an unsupervised learning approach for characterizing latent behaviors in accelerometer data. *Ecology and Evolution*, 6, 727–741.
- **Chimienti M**, Bartoń KA, Scott BE, Travis MJJ. (2014) Modelling foraging movements of diving predators: a theoretical study exploring the effect of heterogeneous landscapes on foraging efficiency. *PeerJ* 2:e54

Awards and Scholarships

- Marie Skłodowska-Curie Individual Fellowship – starting January 2021
- Marie Skłodowska-Curie Actions Seal of Excellence - 2017 MSCA proposal
- The 6th International Bio-logging Science Symposium – best poster prize - 2017
- British Ecological Society Anne Keymer best Talk Prize - highly commended - 2016
- 13th International Seabird Group Conference - best poster prize - 2016
- Fair Isle Bird Observatory - Fieldwork Scholarship - 2014 (1,000 £)
- NERC CASE PhD Scholarship - 2013.
- Scholarship: Ritorno al Futuro, Italy - 2011 (25,000 €)
- Scholarship EDISU- Italy - 2006

Academic and Research Experience

2018 Fieldwork Experience

- 03/07/2018 - 20/07/2018 fieldwork in Greenland, tracking project of Arctic Seabirds
- British Trust for Ornithology Trainee for Ringing licence - Grampian Ringing Group, Scotland UK
- 22/06/2016 - 25/06/2016
Seabird observer during Drone+ Project: multidisciplinary research cruise recording seabirds distribution and abundance at sea, acoustic data, drones images.
- 01/04/2015 - 31/05/2015 and 01/04/2014 - 31/07/2014
Fieldwork assistant with Royal Society for the Protection of Birds - STAR (Seabird Tracking and Research) Project - at Fair Isle Bird Observatory, Shetland, UK.
- 06/2010 and 08/2010
Fieldwork assistant with Marine Turtle Research Group, Northern Cyprus Project, led by Centre for Ecology and Conservation, University of Exeter UK - beach monitoring during sea turtles' nesting season, sea turtles tagging, nest excavation.

2017 Student Placement: Marine Scotland Science, Scottish Government, Marine Laboratory, PO Box 101, 375 Victoria Road, Aberdeen AB11 9DB

2017 Teaching Assistant

- Seabirds abundance and distribution: lecture for Marine top predators and Marine Spatial Planning Master course.
- Tracking lab - practical lecture for the analysis of movement data. Marine top predators and Marine Spatial Planning Master course.
- Demonstrating/tutoring for the master courses: Advanced Statistical Analysis, Introduction to Bayesian, Introduction to GIS, Advanced GIS, Advanced Modelling, Population Ecology, Marine Top Predators and Marine Spatial Planning.

2013 Research Assistant: Marine Scotland Science, Scottish Government, Marine Laboratory, PO Box 101, 375 Victoria Road, Aberdeen AB11 9DB

Computing and Analytical techniques

- Programming languages: R; C++
- Use of Machine Learning Approaches, Hidden Markov Models, ArcGIS and MT-Dive software, Frequentist statistical methods for dealing with spatial/temporal auto-correlation (GLS, GEE), random effects (LMM, GLMM), non-linear interactions (GAMM, GEE-GAM) and zero-inflation (ZIP/ZINB).
- Fundamental use of Bayesian statistical methods: WinBUGs and Rjags run through R; GLM, GLMM, and ZIP/ZINB.

Conference Presentations

- virtual International Statistical Ecology Conference 22-26th June 2020 (Oral Presentation)
- International Research School in Applied Ecology 5-9 August 2019, Hólar University college, Iceland (teaching analysis of movement data for “Movement and Population Ecology” section)
- Movement Ecology of Animals 3-8 March 2019 Renaissance Tuscany Il Ciocco, Lucca (Barga), Italy (Oral presentation)
- 6th Mediterranean Conference on Marine Turtles 16-19 October 2018, Poreč, Croatia (invited speaker for “Bio-logging for Marine Turtles Workshop” – BIG DATA – handling, storing, analysing and sharing)
- 14th International Seabird Group Conference 3th-6th September 2018 Liverpool (Poster Presentation)
- The 6th International Bio-logging Science Symposium 25-29 September 2017, Lake of Constance, Germany (Poster Presentation).
- British Ecological Society Annual Meeting 11-14 December 2016 Liverpool, UK (Oral Presentation)
- 13th International Seabird Group Conference 6th-9th September 2016 Edinburgh (Poster Presentation)
- Biomathematics and Statistic Scotland (BioSS) Meeting 18 August 2016 Aberdeen – Invited speaker for the section “Ecological Statistics”
- Young Researchers using Statistics Symposium 2016 29 July 2016 - Aberdeen (Oral Presentation)
- Animal movement International Symposium 16-17 February 2016 Lund, Sweden (Poster Presentation)
- British Ecological Society Annual Meeting 13-16 December 2015 Edinburgh, UK (Poster Presentation)
- 2nd World Seabird Conference 26-30 October 2015 Cape Town, South Africa. (2 Oral Presentations)
- RSPB Centre for Conservation Science Annual Science Meeting 25 - 27 November 2014, Grantham, UK (Oral Presentation)

- 2nd International Conference on Environmental Interactions of Marine Renewable Energy Technologies (EIMR2014), 28 April – 02 May 2014, Stornoway, Isle of Lewis, Outer Hebrides, Scotland (Poster Presentation)
- 12th international conference of the Seabird, 21st to 23rd March 2014, Oxford, UK. (Poster Presentation)
- Movements and Dispersal Conference, 11-12 November 2013, University of Aberdeen, Aberdeen, UK. (Oral Presentation)
- 4th Mediterranean Conference on Marine Turtles - 7-11 November 2011. Stazione Zoologica Anton Dohrn, Naples, Italy (Oral Presentation)

Media coverage and public outreach

- Journal of Animal Ecology - in Focus:
<https://journalofanimalecology.wordpress.com/2018/08/15/biologging-around-the-clock/>, 15/08/2018
- Aberdeen Modzilla Study Group - workshop, tutorial preparation and presentation.
<https://aberdeenstudygroup.github.io/studyGroup/>
- Scottish Ornithology Club, Invited speaker, 06/02/2017
- Scottish Rangers Association, Invited speaker, 09/11/2016
- Scottish Nature Notes: Tracking seabirds on Fair Isle, 02/06/2014
- Stazione Zoologica Anton Dohrn – public talks at the Sea Turtle Rescue Centre.

Professional activities

Peer reviewer: Marine Ecology Progress Series, Oikos, Marine Biology, BMC Zoology, Ecology and Evolution, Methods in Ecology and Evolution, Journal of Animal Ecology

Member: British Ecological Society