

LEILA FOUDA

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I am an early career ecologist who uses novel technology including telemetry, genetic analysis, and stable isotopes to answer questions on species behaviour and range, population dynamics, feeding ecology, and habitat use.

EDUCATION

2021
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2017

● **PhD. Candidate, Biology**

Queen Mary, University of London

 London, England

- London NERC Doctoral Training Partnership Funding
- Investigating foraging ecology, movement ecology, and population dynamics of loggerhead sea turtles (*Caretta caretta*).
- Planned and coordinated multiple field seasons with lab members including equipment organisation, coordinated field assistant training, and remote fieldwork logistics.
- Coordinated and trained GPS and accelerometer tagging on three islands across two field seasons.
- Developed movement ecology analysis skills for GPS animal tracks and triaxial accelerometer data.
- Developed laboratory skills in stable isotope analysis (tissue and blood) and DNA extraction techniques.
- Assisted in training and development of MSc students.

2012
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2011

● **MSc Conservation Science**

Imperial College London

 London, England

- Topics including: Current Issues in Conservation, Sustainable Use and Resource Exploitation, Population Surveys, Conservation Management, Priority Setting and Implementation.
- *Thesis:* Noisy Neighbours - using Automatic Identification System (AIS) and passive acoustic monitoring data to measure individual vessel source levels in critical whale habitat.

2009
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2005

● **BSc (Hons), Marine Biology**

University of St Andrews

 St. Andrews, Scotland

- Modules including: Biology of Marine Organisms, Animal Behaviour, Conservation Research Methods, Marine Mammals and Man, Scientific Diving.
- *Dissertation:* Echolocation clicks of cetaceans - variation due to cetacean size, social and prey preferences.

RESEARCH EXPERIENCE

Aug. 2017
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March 2017

● **Faculty Research Assistant**

Chesapeake Biological Laboratory

 University of Maryland

- Passive acoustic monitoring study for marine mammals of Maryland which examined the effect of background noise levels on dolphin acoustics.
- Setup, deployment, recovery, and maintenance of acoustic equipment offshore (Atlantic Ocean) and in the Chesapeake Bay.
- Whistle project development with Dr. Helen Bailey. Processed and analysed whistle structure and background noise leading to first author manuscript in Biology Letters.

Feb. 2017
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Oct. 2016

● **Research Assistant**

The Ocean Cleanup Foundation

- Data cleaning, quality control, and post processing for plastic distribution over Great Pacific Garbage Patch.
- Writing final report and peer-reviewed publications with colleagues.

Oct. 2016 Sept. 2016	<ul style="list-style-type: none"> ● Research Assistant (Aerial Observer) The Ocean Cleanup Foundation <ul style="list-style-type: none"> • Aerial observations (scanning for debris, angle measurements, classification, and photography) through paratrooper doors on C-130 Hercules aircraft for surveys over Great Pacific Garbage Patch to quantify ocean debris. • Onsite mission preparations and demobilisation.
Sept. 2016 Aug. 2016	<ul style="list-style-type: none"> ● Research Assistant Centre for Marine and Renewable Energy <ul style="list-style-type: none"> • Cliff-based surveys using theodolites to map the location of marine mammals. Involved scanning for marine mammals, theodolite tracking of marine mammals, weather observations, data entry, and analysis
Apr. 2016 Jan. 2015	<ul style="list-style-type: none"> ● Research Assistant Centre for Marine Science and Technology <ul style="list-style-type: none"> • Developed a bioacoustics and population-ecology study on Australian populations of killer whales (<i>Orcinus orca</i>). • Coordinated and led research trips to the Bremer Canyon and Exmouth field sites. Leading the photo-identification and behavioural data collection. • Data analysis, management and publication preparation utilising both MATLAB and Raven software. • Designed and formatted a photo-identification catalogue using FinBase. • Supervised four Year 10 students conducting science projects on our data.
Nov. 2013 Oct. 2013	<ul style="list-style-type: none"> ● Research Assistant Centre for Marine Science and Technology <ul style="list-style-type: none"> • Analysing underwater spectrograms to identify principal soundscape features. • Utilised noise logger deployment reports to further understand each soundscapes significant features. • This work fed into a broader study looking at temporal and geographical variability in underwater soundscapes.
Oct. 2013 Sept. 2013	<ul style="list-style-type: none"> ● Research Assistant Behavioural Response of Australian Humpback whales to Seismic Surveys (BRAHSS). Joint Industry Partners <ul style="list-style-type: none"> • Long-term project looking at the effect of seismic surveys on humpback whales (<i>Megaptera novaeangliae</i>). • Marine mammal observer role scanning for humpback whales to facilitate small vessel focal follows. • During seismic trials ensure mitigations on animal and vessel distances were met by continuous monitoring. • Efficient communication to lead monitoring operator across seismic trial period. • Proprietary programme set up, operations for scan surveys, data clean up and back up.
Sept. 2013 April 2013	<ul style="list-style-type: none"> ● Research Assistant Oceans Initiative - Science for the Sea <ul style="list-style-type: none"> • Boat-based photo-ID photography, image quality and distinctiveness scoring, data management, and matching of a Pacific white-sided dolphin (<i>Lagenorhynchus obliquidens</i>) catalogue spanning 30-years. • Small vessel data collection for the development of a marine conservation toolkit. Including, multi-species marine mammal line transects utilising CyberTracker for data collection on encounters. Hydrophone deployment and recovery.
July 2010 April 2010	<ul style="list-style-type: none"> ● Research Assistant Sperm Whale Research Project, Pinniped and Cetacean Ecology - New Zealand Research Partnership <ul style="list-style-type: none"> • Boat and land based surveying focusing on sperm whales (<i>Physeter macrocephalus</i>) in the Kaikoura Canyon. • Boat Based: Cetacean spotting; focal follows; directional and omni-directional hydrophone deployment; acoustic tracking; blow rate sampling photo-identification image capture and matching. • Land Based: Scanning for marine mammals; theodolite operation and individual focal follows; monitoring tourist vessel locations.

Oct. 2009 Aug. 2009	Intern Research Department <ul style="list-style-type: none"> Photo-identification of long-term humpback whales (<i>Megaptera novaeangliae</i>) catalogue. Independently conducting snorkel reef surveys to investigate frequency of reef contact by general public and during eco-tours I ensured accurate cetacean logs were maintained during vessel encounters. 	 Pacific Whale Foundation.
Aug. 2008 June 2008	Intern Marine Research Internship Program - Society for Ecological and Coastal Research <ul style="list-style-type: none"> Conducted boat based cetacean and avian research. Primarily focused on gray whales (<i>Eschrichtius robustus</i>) and involved: line transects surveys, focal follows, and prey sampling in areas of foraging whales. Data input and photo-identification of fluke and dorsal images. 	 University of Victoria Whale Lab
Aug. 2007 June 2007	Research Assistant Sediment Ecology Research Group <ul style="list-style-type: none"> Independently conducted sediment sample collecting and processing. Assisted PhD students in the laboratory and field to process and analyse samples and input data. 	 University of St Andrews.

SKILLS

- Fieldwork Skills**
 - Animal Tagging (Sea Turtle); Tissue Sample and Morphometry Data Collection; Sample and Data Processing and Preservation; Marine Mammal Observations (Boat and Land based); Line-Transect Surveys and Focal Follows; Cetacean Photo-ID; Hydrophone and Acoustic Recorder Set-up, Deployment and Operation; Aerial observations; Theodolite set-up, operation and use; Prey Sampling; Binocular use.
- Laboratory Skills**
 - DNA Extraction; PCR; Stable Isotope Sample Preparation and Processing; Mass Spectrometer set up (calibration, liner and column changes)
- Software Skills**
 - Data analysis, visualisation, and modelling (R, Rmarkdown); DNA Alignment (UGENE, DNAsp); Movement and Spatial Analysis (R, ArcGIS, QGIS); Acoustic Analysis (Raven, Pamguard, Audacity, R, MATLAB), Academic writing (MS Office, Rmarkdown, LaTeX); Fieldwork (CyberTracker, VADAR, Google Sheets); Web design (Rmarkdown, GitHub, Netlify, Wordpress)

TEACHING EXPERIENCE

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| 2021

2018 | Assisting with supervision of MSc Students <ul style="list-style-type: none"> Providing guidance and support to MSc students conducting thesis research in my PhD lab. Teaching laboratory skills including stable isotope analysis. |
| 2020 | Teaching Assistant on virtual MSc Ecology and Evolution field course <ul style="list-style-type: none"> I developed and delivered a workshop on marine mammal whistle analysis. Delivered a lecture on CV presentation development. Took part in a discussion group on scientific opportunities in and outside of academia. |

2019
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2018

- **Teaching Assistant on MSc Ecology and Evolution field course**

- Based in Cabo Verde over a two week period. I wrote and delivered lectures, guided small discussion groups, supervised and assisted student work and led logistical management.

2019
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2018

- **Demonstrator for undergraduate modules**

- Teaching practical laboratory skills in the bio-sciences. Engaging and encouraging students to learn and develop new skills (pipetting, microscope use, scientific drawing).
 - Marking and providing feedback on submitted work both in the lab and on submitted work.

PUBLICATIONS

2020

- **Long-term survey of sea turtles (*Caretta caretta*) reveals correlations between parasite infection, feeding ecology, reproductive success and population dynamics.**

[Scientific Reports \(1\)](#)

- Emma C. Lockley, **Leila Fouda**, Sandra M. Correia, Albert Taxonera, Liam N. Nash, Kirsten Fairweather, Thomas Reischig, Jandira Durao, Herculano Dinis, Silvana Monteiro Roque, Joao Pina Lomba, Leno dos Passos, Sahmorie J. K. Cameron, Victor A. Stiebens, Christophe Eizaguirre

2020

- **Seasonal productivity drives aggregations of killer whales and other cetaceans over submarine canyons of the Bremer Sub-Basin, south-western Australia.**

[Australian Mammalogy](#)

- Chandra Salgado Kent, Phil Bouchet, Rebecca Wellard, Iain Parnum, **Leila Fouda**, Christine Erbe

2019

- **Cetacean sightings within the Great Pacific Garbage Patch.**

[Marine Biodiversity \(4\)](#)

- Susan E. Gibbs, Chandra P. Salgado Kent, Boyan Slat, Damien Morales, **Leila Fouda**, Julia Reisser

2018

- **Dolphins simplify their vocal calls in response to increased ambient noise.**

[Biology Letters \(14\)](#)

- **Leila Fouda**, Jessica E. Wingfield, Amber D. Fandel, Aran Garrod, Kristin B. Hodge, Aaron N. Rice, Helen Bailey

2018

- **Validating automated click detector dolphin detection rates and investigating factors affecting performance.**

[The Journal of the Acoustical Society of America \(2\)](#)

- Aran Garrod, Amber D. Fandel, Jessica E. Wingfield, **Leila Fouda**, Aaron N. Rice, Helen Bailey

2016

- **Killer Whale (*Orcinus orca*) Predation on Beaked Whales (*Mesoplodon spp.*) in the Bremer Sub-Basin, Western Australia.**

[PLOS ONE \(11\)](#)

- Rebecca Wellard, Keith Lightbody, **Leila Fouda**, Michelle Blewitt, David Riggs, Christine Erbe.

2015

- **Vocalisations of Killer Whales (*Orcinus orca*) in the Bremer Canyon, Western Australia.**

[PLOS ONE \(10\)](#)

- Rebecca Wellard, Christine Erbe, **Leila Fouda**, Michelle Blewitt.

POSTERS AND TALKS

2021

- **Feeding ecology and maternal effects impact reproductive success in loggerhead sea turtles (*Caretta caretta*).**

Ecological Society of America - Annual Meeting

- Contributed Poster. **Leila Fouda**, Stuart Negus, Emma C. Lockley, Albert Taxonera, Kirsten Fairweather, Gail Schofield, Christophe Eizaguirre

- 2020
- **Evaluating the use of marine protected areas by sea turtles in the Cabo Verde.**
SBCS Symposium
 - Contributed Talk. **Leila Fouda**, Stuart Negus, Emma C. Lockley, Adrienne Kerley, Albert Taxonera, Christophe Eizaguirre
- 2019
- **Local feeding and its influence on reproductive investment in a highly migratory species.**
SBCS Symposium
 - Contributed Poster. **Leila Fouda**, Stuart Negus, Emma C. Lockley, Albert Taxonera, Kirsten Fairweather, Christophe Eizaguirre
- 2019
- **Fitness impact of local feeding in loggerhead sea turtles (*Caretta caretta*).**
Dynamic Earth: The Joint-DTP Conference
 - Contributed Talk. **Leila Fouda**, Stuart Negus, Kirsten Fairweather, Albert Taxonera, Gail Schofield, Christophe Eizaguirre

⚙ RESEARCH GRANTS

- 2021
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2017
- **London NERC DTP studentships**
PhD Studentship in the natural sciences
 - London NERC Doctoral Training Partnership Funding. UKRI studentship for doctoral research which covers university tuition fees and stipend.
- 2014
- **SeaWorld and Busch Gardens Conservation Fund (USD \$25,000)**
Bremer Canyon Killer Whales - Bioacoustic and population study.
 - Grant Recipient with Dr. Christine Erbe at the Centre for Marine Science and Technology.

🗣 PUBLIC ENGAGEMENT

- April 2019
- **Ten Turtle Years – the past, present and future of sea turtle conservation**
Pint of Science
 - A public talk with fellow PhD students Emma Lockley about how a community-based approach to conservation has contributed to exciting scientific research, conservation decisions for endangered sea turtles, and increasing opportunities for people across the Cabo Verde archipelago.
- Nov. 2018
- **Meet the Scientist' talk**
Westcliff High School for Girls
 - A talk to A Level students about studying and working the marine sciences.
- Oct. 2018
- **New Study Reveals Effects of Boat Noise on Dolphins**
Cheddar News
 - Project: *Passive Acoustic Monitoring Of Marine Mammals*. A [short interview](#) discussing the results of my publication - "Dolphins simplify their vocal calls in response to increased ambient noise"
- July 2017
- **Dolphin Watchers Wanted: Researchers Ask For Help Tracking Sightings In The Chesapeake.**
DCist
 - Project: *Chesapeake Bay DolphinWatch*. A [short article](#) on why the DolphinWatch public sightings database is important and how the public is helping our research.
- July 2017
- **Researchers need your help to study dolphins in the Chesapeake Bay.**
ABC2News Baltimore
 - Project: *Chesapeake Bay DolphinWatch*. A [short write up and news segment](#) with Dr. Helen Bailey and Amber Fandel of the [UMCES DolphinWatch project](#).

- July 2017
- **Dolphin sightings in the Chesapeake Bay becoming more frequent.**
ABC7 Washington DC
 - Project: *Chesapeake Bay DolphinWatch*. An [article and short news segment](#) on the DolphinWatch project.
- March 2017
- **Wolves of the Sea: Killer Whales and the First Observed Predation on Beaked Whales in the Southern Hemisphere.**
PLOS Blogs
 - Project: *Bremer Canyon Killer Whale Research*. A [blog post](#) about our PLOS ONE paper on the observations of killer whale predations in the Bremer Canyon.
- Aug. 2017
- **Dolphin sightings on the rise in the Chesapeake Bay.**
WUSA9 Washington DC
 - Project: *Chesapeake Bay DolphinWatch*. A [short article](#) and news segment on #OffScriptOn9 about why dolphins may be in the Chesapeake Bay a pink dolphin sighting in Louisiana.
- Oct. 2016
- **Researchers at Moffett Field aim to clean Great Pacific Garbage Patch.**
ABC7 San Francisco
 - Project: *The Ocean Clean Up*. An [article and short news segment](#) on the The Ocean Clean Up Aerial Expedition over the Great Pacific Garbage Patch and the first flight on Ocean Force One.
- June 2015
- **Australian town a killer place to see orcas.**
Australian Geographic
 - Project: *Bremer Canyon Killer Whale Research*. An [article](#) describing the unique location that is the Bremer Canyon and the research we conducted there.
- April 2015
- **Bremer Canyon turns on orca feast.**
The West Australian
 - Project: *Bremer Canyon Killer Whale Research*. An [article](#) from the end of the 2015 Bremer Canyon killer whale season.
- Jan. 2015
- **On-board naturalist**
 - Project: *Bremer Canyon Killer Whale Research*. During the Bremer Canyon research trip I took on the role of on-board naturalist for passengers, giving an introductory talk and answering questions during tours.
- Oct. 2015
- **Killer Encounters.**
Scoop Magazine
 - Project: *Bremer Canyon Killer Whale Research*. A [longer article](#) on the Bremer Canyon tours, our killer whale research and the Bremer Bay area.
- Sept. 2015
- **Curtin orca-strates vital killer whale research.**
Curtin University Media Release
 - Project: *Bremer Canyon Killer Whale Research*. The [media release](#) on the Bremer Canyon killer whale acoustics paper published in PLOS ONE.
- Feb. 2015
- **WA whale puzzle to be probed.**
The West Australian
 - Project: *Bremer Canyon Killer Whale Research*. An [article](#) discussing the noise logger that I deployed with The Centre for Marine Science and Technology in the Bremer Canyon in February 2015
- Dec. 2013
- **How to start out in marine biology?**
Conservation Careers
 - This [article](#) for Conservation Careers talks about life as a marine biologist, how I got started and gives advice for future marine biologists.