David Grady

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I am enthusiastic to build upon a good track record of well-developed analytical skills of human and natural environments. My career has allowed me to develop a detailed understanding of the scientific principles and debates surrounding environmental change, impacts and sustainability as well as the social and political implications involved. Through my career I have also developed excellent data management and analysis skills. I aim to continue a career that allows me to use my experience to engage positively with complex issues in the real world.

Education

PhD in Geography and Earth Sciences

(**Aberystwyth University:** *September 2016 – April 2020*)

Research: Interpreted changes in sediment/water chemistry (using XRF, isotopic composition, spectroscopy and ion chromatography) and algal community composition (diatom identification) to reconstruct environmental change and ecological resilience in Ethiopia for the past 16,000 years.

- Spearheaded month-long fieldwork in an unfamiliar environment with limited resources, in the Bale Mountains (>3,950 m elevation), Ethiopia, sampling waters and drilling sediments.
  - Fostered a collaborative, strategic direction with a multi-disciplinary, international group of specialists to effectively communicate our findings to peers and stakeholders through international conferences (e.g. INQUA, 2019), reports and academic papers.
- Independently constructed a hydro-chemical model to infer Holocene environmental changes at Garba Guracha, Ethiopia based on modern and fossil algal community composition.
- Self-taught R to apply strong analytical skills, alongside good data management and presentation to ensure high-quality statistical analysis, graphics, maps, and reports.
  - Experienced in statistical hypothesis testing, regression, time series data, Bayesian statistical modelling (age-depth profiles), general additive models (GAMs), rates of change and data visualisation (*ggplot2* in R and *plotly* software).
- Developed expertise in light and scanning electron microscopy: having identified a potentially new species of algae in samples from my second study area: Lake Babogaya, Ethiopia, I secured funds to travel to the Royal Botanical Garden Edinburgh and collaborate with field experts, confirm and publish my results. I named this new species *Nitzschia fenestralis*.

Environmental Change, Impact and Adaptation MSc (Distinction class)

(**Aberystwyth University:** *September 2015 – September 2016*)

Thesis: Worked with Natural Resources Wales to punctually deliver an extensive database of 387 flood events, maps and impacts for Wales (1870-1900 AD) from the National Library of Wales newspaper archive (>15 million articles). This work has extended the current database of flooding and its impacts to increase the resilience and adaptability of modern-day communities.

- I proved to be motivated, flexible and resourceful having taught myself complex Excel database management skills (e.g. VBA coding, pivot tables and macros), AutoCAD, GIS software alongside my studies to produce high quality maps, essays and reports.

- Experienced in the theory and application of environmental change and impact assessments, environmental change, policy and legislation, environmental data collection and analysis (with a focus on water quality and biogeochemistry).
- I received the *Outstanding Masters' Award* for highest overall grades at Masters level in the University, highlighting my excellent track record of high quality presentations, essays and technical reports both individually and as part of a team.

Physical Geography BSc (1st class Hons.)

(**Aberystwyth University:** *September 2012 – June 2015*)

Thesis: Conducted field coring and geochemical analysis of water samples and peat sediments from Sheheree Bog, south-western Ireland to support archaeological evidence and be the first to quantify the magnitude of local mining pollution since the Bronze Age, 3,500 years ago.

- Key course themes included: soil geochemistry and water quality (including extensive lab work), environmental and climate change science, biogeography.
- I was awarded the *Gregynog and James Fairgrieve Prize (Science)* for highest overall course marks across the 2012 cohort of BSc Geography students.

Employment History

Associate lecturer (Hohai University, China; 3 months Fixed Term Contract)

(*October 2019 – December 2019; November 2020 – January 2021*)

Personally designed and taught an undergraduate hydrochemistry and professional skills for environmental scientists module (comprised of 24 teaching sessions of 1.5 hours) to 70-80 Chinese university students both in person (in 2019) and virtually (during the COVID-19 pandemic).

- Excellent problem solving, resource and time management skills were essential to ensure a successful delivery of multiple complicated scientific theories and calculations to Chinese students with a varied English language proficiency.

- Adapted quickly to a different work system in a foreign language and independently constructed the module including coursework, examinations and the teaching timetable.

Laboratory and research assistant (CHERISH/Aberystwyth University)

(*September 2017 – September 2019*)

Alongside my studies I enjoyed working in a fast-paced chemistry and palaeoecology laboratory environment processing incoming sensitive and fragile samples, managing storage and processing of specimens, and keeping it in a good condition for staff and visitors to the lab.

- Responsible for the routine running, maintenance and troubleshooting of laboratory software and hardware to ensure all lab users could use the facilities effectively.

- Undertook and organised equipment for multiple 1-3 day long field campaigns to multiple locations on the Welsh coast to map (GPR/drone surveys), collect and analyse sediment, soil, water quality and sediment samples for the CHERISH (Climate, Heritage and Environments of Reefs, Islands, and Headlands) project with students and researchers.
- Communicated with laboratory clients and worked independently as well as within a team to ensure full flexibility and accurate processing of samples to meet requests to a high standard.
  - Quality control procedures and excellent record keeping skills were vital to ensure high quality, reproducible results, as well as lab safety and efficiency, for publication and dissemination of results to clients and academic journals.
- Led the design and personally presented science outreach exhibits at the National Eisteddfod of Wales (2018) and School Science Week at Aberystwyth University from 2016 to 2019.