



**UNIVERSITY OF LINCOLN
JOB DESCRIPTION**

JOB TITLE	Post-Doctoral Research Associate Groundwater and Salinisation				
DEPARTMENT	College of Science (Department of Geography, School of Life and Environmental Sciences)				
LOCATION	University of Lincoln Campuses				
JOB NUMBER	COS966	GRADE	7	DATE	March 2023
REPORTS TO	Dr Daniel Magnone				

CONTEXT

Salinisation of agricultural lands is a global challenge and one that is likely to affect the UK over the coming century. One area at risk is the Fens of the East of England which produces 11 % of the agri-food economy in 4 % of agricultural lands. Both sea-level rise and water abstraction can increase the risk of salinisation of groundwaters and both are set to increase as Climate Change progresses.

This 24-month PDRA position in hydrogeology and hydrogeochemistry at the University of Lincoln seeks to understand the risks of groundwater salinisation in the under-researched shallow groundwater system of the UK Fens. The successful candidate will lead a blended field and modelling based research project quantifying the risk of salinisation of the Fens groundwater system.

The PDRA will be a member of the Coasts and Catchments Research Group within the Department of Geography and larger School of Life and Environmental Sciences. The appointee will work interdisciplinarity and closely with colleagues from across the College of Science - particularly in the Lincoln Institute for Agri-Food Technology.

This project is part of the wider £7 million Defra Innovative Resilience funded Project Groundwater: Lincolnshire co-ordinated by Lincolnshire County Council. The work will deliver both cutting edge groundwater science and develop solutions to the challenges faced by local communities.

For informal enquiries please contact Dr Daniel Magnone (dmagnone@lincoln.ac.uk) PI & Deputy Head of Life and Environmental Sciences.

JOB PURPOSE

The Post-Doctoral Research Associate is responsible for conducting research on the project, as directed by the Principal Investigator, and is expected to operate with a significant degree of autonomy. They will not be expected to operate as an independent researcher.

The post holder may be required to help supervise the work of more junior researchers.

KEY RESPONSIBILITIES

Literature Surveys

Undertake literature surveys and other investigations and prepare reports as required.

Programme of Research

Undertake a programme of research under the direction of the Principal Investigator. Research tasks will include (but are not restricted to):

- Planning of field campaigns including liaising with landowners;
- Supervision of well installation (conducted by a professional drilling company);
- Installation of monitoring equipment in wells;
- Collection of groundwater samples and retrieval of in-situ data;
- Co-ordinating the analysis of groundwater samples;
- Building a groundwater model within appropriate software (e.g. ModFlow) to be parametrised against existing data and data collected by the project.

Lead in the production of high-quality research outputs, including reports, papers and other publications of national/international standing.

Project Management

Perform project management activities, planning, scheduling, monitoring and reporting on progress of research projects.

Liaison and Networking

Identify and liaise with internal and external collaborators, and with colleagues in the Department, maintaining positive and effective working relationships.

Internal Research Activities

Participate in and help to organise internal research activities, including seminars, research meetings and conferences.

Continuous Professional Development

Undertake continuous professional development activities.

Grant Applications

Contribute to the production of grant applications.

In addition to the above, undertake such duties as may reasonably be requested and that are commensurate with the nature and grade of the post.

ADDITIONAL INFORMATION

Scope and dimensions of the role

We seek an individual with a proven track record in groundwater research and ideally experience of working in saline systems. The candidate should have experience and capability of conducting groundwater research in field conditions, collecting in situ data and samples for future analysis. The candidate should be able to conduct groundwater modelling tasks (e.g. MODFLOW). Experience in hydrogeochemical analysis is highly desirable.

The candidate must be able to demonstrate their ability to develop and maintain relationships with a number of stakeholders in agricultural, land management and/or public sectors. The candidate should also be able to work independently, manage their own time and set their own goals.

The successful candidate will have a proven track record in leading and contributing to the generation and publication of quality peer-reviewed published journal articles and the dissemination of research at both specialist science conferences as well as at events aimed at the general non-specialist public and/or non-academic professionals.

Ability to travel for field work is essential.

Key working relationships/networks

Internal	External
<ul style="list-style-type: none">• Principal Investigator• Head of Research Centre• Head of School• Other research and academic staff within the School of Life Science, School of Geography, and the Lincoln Institute for Agri-food Technology	<ul style="list-style-type: none">• Research collaborators• Sponsors and clients



**UNIVERSITY OF LINCOLN
PERSON SPECIFICATION**

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LINCOLN

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Selection Criteria	Essential (E) or Desirable (D)	Where Evidenced Application (A) Interview (I) Presentation (P) References (R)
Qualifications:		
PhD or equivalent (good candidates may be accepted with a PhD pending, subject to publication record)	E	A
Extensive knowledge specific to project/area	E	A/I
Experience:		
Extensive experience of relevant research methods	E	A/I
Authorship of research outputs of national/international standing	E	A/I
Experience of research in specific project area	E	A/I
Skills and Knowledge:		
Experience and capability of working in the field, either independently or within a multidisciplinary team	E	A/I
Experience and capability of working in the laboratory	D	A/I
Ability to undertake groundwater modelling	E	A/I
Ability to process and analysis groundwater data	E	A/I
Excellent written communication, including the ability to write reports and research outputs	E	A/I
Ability to prioritise own workload and work to specified deadlines under pressure	E	A/I
Ability to communicate complex subjects orally	E	A/I
Skills specific to project/area	E	A/I
Competencies and Personal Attributes:		
Flexible approach to workload	E	I
Ability to work on own and as part of a team	E	I
Enthusiasm and commitment	E	I
Business Requirements:		
Ability to travel for fieldwork	E	I

Essential Requirements are those, without which, a candidate would not be able to do the job. **Desirable Requirements** are those which would be useful for the post holder to possess and will be considered when more than one applicant meets the essential requirements.

Author	DM	HRBA	AH
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