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**Job Description**

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| **Job title** | Research Associate in Atmospheric Dynamics  |
| **Department/School** | Electronic and Electrical Engineering |
| **Job family** | Education and Research |
| **Grade** | 7 |
| **Reporting to** | Principal Investigator (PI) or Co-Investigator (CI) |
| **Responsible for** | There may be a requirement for:day to day supervision of other staff e.g. technical staff or, co-supervision of doctoral or undergraduate students  |
| **Location** | University of Bath premises  |

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| **Background and context** |
| This role will study how the lower and middle atmosphere (i.e. the troposphere, stratosphere and lower mesosphere) drive and control the dynamics of the Earth's upper mesosphere, lower thermosphere, and ionosphere (MLTI), a critical boundary region linking the atmosphere below and space above. You will primarily focus on the role of atmospheric gravity waves in this driving. The MLTI is by far the least-understood part of the atmospheric system, and our knowledge of how it varies over time and space is very limited. These posts will support the NERC-funded DRIIVE and MesoS2D projects, two major (>£2M each) projects aimed at understanding this complex atmospheric region. Both projects are multi-institution programmes combining novel observations and cutting-edge atmospheric models to characterise and understand the MLTI system.Working with colleagues at a wide range of UK and international institutions, you will use NASA and ESA satellites, supported by ground-based instruments and reanalysis output, to measure the effects of small-scale atmospheric ('gravity') waves, and examine these measurements to identify the signatures of phenomena such as local and regional weather, the output of the sun, El Nino and the Madden-Julian Oscillation. You will compare these observed effects to simulations run using the leading WACCM weather model, and to ionospheric data from the state-of-the-art EISCAT-3D radar which will start operating in Scandinavia from 2022 onwards. The ultimate goal of both projects to drive a step-change in our knowledge of and ability to predict the MLTI, and you will play a key role in delivering this goal. |

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| **Job purpose** |
| To provide subject-specific research expertise and undertake specific research work to Prof Corwin Wright and his research team for a specified grant/project.  |

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| **Main duties and responsibilities**  |
|  | Responsible to the PI/CI for (as appropriate to discipline):  |
| **1** | Conduct individual and/or collaborative research projects. Contribute to the design and execution of the project e.g. timetabling and meeting project milestones; participating in regular discussions with collaborative partners. Generate, collect and analyse existing data related to the project using qualitative and/or quantitative techniques. |
| **2** | Write-up results of research and contribute to the publication of results in high-quality peer-reviewed academic literature. |
| **3** | Disseminate results of research project as appropriate to the discipline through activities such as* overseas research visits
* conference presentations
* public engagement activities
 |
| **4** | Participate in departmental/group meetings and prepare and deliver presentations/seminars to project team, internal and external stakeholders or funders. |
| **5** | Assist with the supervision of postgraduate students and undergraduate project students and the assessment of student knowledge. |
| **6** | Continually update knowledge and understanding in field or specialism to inform research activity. |
| **7** | Identify sources of funding and provide assistance with preparing bids to funding bodies. Develop ability to secure own funding e.g. travel grants.  |
| **8** | Contribute to the development of research objectives and proposals for own or joint research projects, with assistance of a mentor, if required. |
| **9** | Disseminate knowledge of research advances to inform departmental teaching. |
| **10** | As a member of Research Staff at the University, you will be encouraged to take up a minimum of 10 days’ professional development pro rata per year. You should use this time to spend on activities that will benefit your career development and your personal growth. Examples include: attending workshops, career development coaching, mentoring, training courses, participation in networks, attending conferences, writing fellowship or funding applications, and representing the research staff community on committees or working groups.The University, as a signatory to the Concordat for the Career Development of Researchers, is committed to its principles. We aim to provide a supportive and inclusive environment, where researchers’ contributions are recognised and valued, and we provide opportunities to enable research staff to develop their full potential.  |
|  | You will from time to time be required to undertake other duties of a similar nature as reasonably required by your line manager. You are required to follow all University policies and procedures at all times and take account of University guidance.  |

**![logo-uob-resize[1]]() Person Specification**

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| **Criteria** | **Essential** | **Desirable** |
| **Qualifications** |  |  |
| Undergraduate degree (e.g. BA, BSc, BEng)PhD degree in subject area of direct relevance for the project; **or** Professional/Industrial/Creative Doctorate in subject area of direct relevance for the project (e.g. DBA, MD, EdD, PsyD, EngD, DA); **or**Professional qualification (e.g. Chartership) and relevant experience equivalent to that of a PhD; **or**Professional experience in relevant discipline equivalent to that of a PhD  | √√ |  |
| **Experience/Knowledge** |  |  |
| Post doctoral experience |  | √ |
| Demonstrated significant depth and breadth of specialist knowledge of subject matter to contribute to research programmes and to the development of departmental research activities | √ |  |
| Demonstrated awareness of latest developments in the field of research and in research design | √ |  |
| Demonstrated potential to publish in high quality, peer reviewed journals | √ |  |
| **Skills** |  |  |
| Ability to prepare research proposals, to conduct individual research work and to disseminate results |  | √ |
| Ability to organise and prioritise own workload to meet required deadlines | √ |  |
| Ability to write research reports and to effectively disseminate outcomes | √ |  |
| Excellent oral, interpersonal and written communication skills | √ |  |
| Proficiency in the analysis and interpretation of geophysical scientific data from sources such as satellites, ground-based instruments, reanalyses or weather/climate models. | √ |  |
| Proficiency in a scripting or compiled scientific programming language such as Matlab, Python, Fortran or IDL. | √ |  |
| Experience with the science of atmospheric waves, such as spectral analysis, atmospheric ray-tracing, or the theory of this area. |  | √ |
| **Attributes** |   |  |
| Commitment to working within professional and ethical codes of conduct | √ |  |
| Innovation and developing creative solutions  | √ |  |
| Commitment to excellence in research | √ |  |
| Enthusiasm and self-motivation | √ |  |
| Tenacity – working to achieve own and team objectives and to overcome obstacles  | √ |  |
| Ability to be an effective team worker | √ |  |
| Commitment to safe working practices | √ |  |