



## Job Description / Grading Form

**Section 1 – For completion by Line Manager** (please complete all boxes as appropriate so that your submission is not delayed. Guidance notes are available for support on writing Job Descriptions).

<b>Position Name</b>	<b>Assistant Professor in Applied Electromagnetics and Antennas</b>	
<b>College/Budget Centre</b>	EPS/Engineering/Electronic Electrical and Systems Engineering	
<b>Position Number (if Known)</b>		
<b>Proposed Grade</b>	<b>Grade 8</b>	
<b>Reason for grading request</b>		New role : - If comparator role exists please give post title / number:
	X	Re-grade for existing post-holder
<b>Background</b>		
<p>This is an exciting time to be an engineer at the University of Birmingham. Following the creation of the School of Engineering in 2016, which brought together the disciplines of Civil Engineering, Mechanical Engineering and Electronic, Electrical &amp; Systems Engineering, we are in Phase 2 of our renaissance. We are investing significantly in people and infrastructure – our new £65m signature building and our £28m UK Rail Research and Innovation Network (UKRRIN) Centre of Excellence for Digital Systems have recently opened their doors. In addition, our world-leading £26M National Buried Infrastructure Facility opened in 2020.</p> <p>The School has a history of undertaking world-class research and is proud of its strong and extensive links with industry, ensuring that our innovative research is rapidly translated into practice. As part of our investment, we are now seeking to appoint a motivated and highly research active engineer in Applied Electromagnetics and Antennas to join us and help us create the future. The posts will be associated with the <b>Communications and Electromagnetics Research Group</b>, part of the Department of Electronic, Electrical and Systems Engineering, in the School of Engineering. The group has a long and distinguished history in radio and microwave science and technology including the notable contributions of multiband mobile phone antennas, microwave automotive radar sensors, metamaterials-based antennas, terrestrial and body-centric propagation models and the first high temperature superconductor antennas and filters over six decades. We are looking for expertise in the <b>areas of Antennas, Applied Electromagnetics, Propagation, Metamaterials and Microwave Engineering</b> and focusing on applications in future wireless communications systems, including mobile, satellite and millimetre-wave/Terahertz communications. We are particularly interested in colleagues who demonstrate ambition, innovation, and leadership.</p> <p>The successful candidates will be expected to create and disseminate knowledge through initiating and conducting original research, through publication and through developing and delivering undergraduate, postgraduate and CPD programmes, as appropriate to the disciplinary area. In addition, to contribute to the department/school through management/leadership, and enterprise activities, as appropriate.</p>		

The successful candidates will have a PhD (or equivalent qualification) in one of the above areas. Industrial experience, either through working in or with industry would also be desirable.

The successful candidates will be expected to engage actively with external partners in academia, government and industry in the UK and internationally.

*For informal enquires, please contact Professor Theodoros N. Arvanitis ( [t.arvanitis@bham.ac.uk](mailto:t.arvanitis@bham.ac.uk) ), Head of Department of Electronic, Electrical and Systems Engineering and Professor Karl D. Dearn ( [k.d.dearn@bham.ac.uk](mailto:k.d.dearn@bham.ac.uk) ), Head of School of Engineering.*

### **Summary of Role**

Contribute to the whole range of research, teaching, and administration.

Research will involve initiating, conducting and disseminating original research. The research has measurable outcomes and is reflected in a growing national reputation and often an incipient international reputation.

Teaching will include a substantial contribution to: (a) the management, development (including programme/module review) and delivery of teaching and assessment; and (b) enhancement of the student experience or employability. The role will typically also involve developing and advising others, including: (a) providing expert advice to staff and students, (b) supervising and examining PhD students, and (c) developing and advising others on learning and teaching tasks and methods.

Management and administration will involve contributions at Departmental and School level, and/or making an important contribution to some managerial/leadership activities (e.g., working groups) within the University. This may include developing and making substantial contributions to knowledge transfer, enterprise, business engagement, public engagement, widening participation, schools' outreach, or similar activities at Department/School level or further within the University.

### **Main Duties / Responsibilities**

#### **Research**

To plan and carry out research, using appropriate methodology and techniques. This may include, where appropriate to the discipline:

- Pursue personal research including developing research ideas and winning support, including financial support.
- Plan, publish and/or execute high quality research
- Project manage research activities, and/or supervise other research staff
- Present findings in high quality publications and conference proceedings
- Develop novel methodologies and techniques appropriate to the type of research being pursued
- Supervise and examine PhD students, both within the institution and externally
- Provide expert advice to staff and students within the discipline
- Apply knowledge in a way which develops new intellectual understanding
- Develop and make substantial contributions to knowledge transfer, and enterprise (including business engagement, public engagement) and similar activity that is of manifest benefit to the College and the University.

#### **Learning and Teaching**

To use a variety of methods in teaching and advising individuals and groups of undergraduates, postgraduates, or CPD students. Where appropriate to the discipline this may include:

- Teach and examine courses at a range of levels
- Plan and review own teaching approaches and act as a mentor to encourage others to do the same
- Develop programme proposals and make substantial contributions to the design of teaching programmes more widely in the Department or School, as appropriate
- Where appropriate, undertake and develop the full range of responsibilities in relation to supervision, marking and examining (including summative assessment, assessed work, contributing to the final award – as a mark or as credit – such as unseen examinations, essays, dissertations, or presentations.
- Use appropriate approaches to learning and teaching in their field
- Disseminate appropriate practices through suitable media
- Develop and advise others on learning and teaching tasks and methods
- Develop and make substantial contributions to knowledge transfer, enterprise, business engagement, public engagement activities or similar on own specialism that enhances the student experience or employability and is of manifest benefit to the College and University
- Devise and supervise projects, student dissertations and practical work

### **Management/Administration**

To contribute to Departmental/School administration or have a high level of responsibility for others. This may include:

- Contribute to the administration/management of research and/or teaching across the Department/School
- Lead and manage a team to devise and implement a new and/or revised process (e.g., new programme or a recruitment drive)
- Advise on personal development of colleagues and students
- Make a major contribution to some administrative activities within the University (e.g., appeals panels, working groups)
- Manage enterprise, business development, and public engagement activities of manifest benefit to the College and University
- Develop and make substantial contributions to knowledge transfer, enterprise, business engagement, public engagement, widening participation, schools' outreach.

### **Person Specification**

- a first degree in engineering, physics or an allied subject to the field of applied electromagnetics and antennas.
- a relevant doctoral qualification
- industrial experience, either through working in or with industry would be desirable

### Assistant Professor

#### **Research**

- Experience and achievement reflected in a growing reputation
- Extensive experience and demonstrated success in planning, undertaking and project managing research to deliver high quality results
- Extensive experience of applying and/or developing and devising successful models, techniques, and methods
- Experience and achievement in knowledge transfer, enterprise, and similar activity
- Prior research experience and peer reviewed journal publications in one or more of the following: antennas (theory and testing), applied electromagnetics, electromagnetic metamaterials, microwave/millimetre-wave engineering.

#### **Teaching**

- Ability to design, deliver, assess, and revise teaching programmes, with emphasis in communications and electronic/electrical engineering.
- Extensive experience and demonstrated success in developing appropriate approaches to learning and teaching, and advising colleagues
- Experience and success in knowledge transfer, enterprise and similar activity that enhances the student experience or employability

**Management Administration**

- Ability to contribute to School/Departmental management processes
- Ability to assess and organise resources effectively
- Understanding of and ability to contribute to broader management/administration processes

The above information will form the Further Particulars for the role. The following should all have been addressed under the various sections.

- Who, and in what ways the post-holder is required to communicate with others
- The type of problems the post-holder will face, and the ways they will deal with these
- The ways in which the employee will be expected to organise themselves and others.
- The responsibilities the post-holder will possess.

It is likely that these will be reflected in the above sections. If any of these 4 areas are not reflected fully above and you feel that this would not be appropriate for them to appear in the Further Particulars for the role, please detail them here.

**Section 2 - For HR use only**

Either a) Similar Post has already been graded

Post Title (& Number)	
I confirm I have reviewed this Job Description against the above role and that there are no material differences that would affect its grading.	
Name	
Date	

Or b) Post requires grading

Job Family Framework used		
	Proposed band/grade	Rationale for proposed band/grade
Knowledge		
Skills and experience		
Communications		
Dealing with problems		
Organisational skills		
Responsibilities		
Overall proposed band/grade and rationale		
<b>Evaluation:</b> I have ensured the quality of the job description, I propose the above band/grade, and I have evidence to demonstrate this grading to be consistent and fair		
Name		
Date		
<b>Evaluation 2<sup>nd</sup> Check:</b> I confirm that I have ensured the quality of the job description, propose the band/grade and have evidence to demonstrate this grading to be consistent and fair		
Name		
Date		

# Guidance

**What is the purpose of this form?** This form is designed to provide us with the information that we require to advertise your vacancy. As this is our standard template, please always ensure that you use this when you have a role that needs to be filled. Be mindful that the information you provide will also form the basis for job evaluation purposes and establishing the salary for a post. You may also be using this form to request that the salary for an existing member of staff is re-graded.

**What happens next?** You can complete the form whilst you are waiting for the post to be approved. Once completed, please return the form to HR (Recruitment Team). The vacancy will be advertised once all the information and approvals have been received.

**How do I complete the form?** The form should be completed in one font and format throughout. Please see below guidance for each section of the form. Please note that further detailed guidance can be found on our intranet page – [Guidance on writing job descriptions](#).

**Position Name** – We wish to aim to keep position titles as simple, accurate and consistent as possible to facilitate a candidate’s job search. When deciding on a new position title, think about the words candidates are most likely to use to search for your vacancy.

**Department** – Please confirm the College/Budget Centre within which the position will sit.

**Position Number** - Your position will be assigned with a unique position number by HR. If this is a replacement, then the new incumbent will assume the current post holder’s position number, otherwise a new position number will be created.

**Proposed Grade** – For all new positions, HR will use the information provided to evaluate the role and establish the appropriate band/grade using the appropriate framework. For existing positions, HR will review the information provided and re-evaluate if required (if post graded more than 12 months ago).

**Reason for grading request** – For example, re-grade of an existing post-holder.

**Background** – Please provide an insight into the department and its relationship to the wider University and the reason for the vacancy.

**Summary of Role** – Use this section to summarise the main reasons for the position and the intentions of the role. You may find it easier to write the summary after you have completed the rest of the template including the main duties and required knowledge, skills and experience.

**Main Duties/ Responsibilities** - In this section you should illustrate the significant details and responsibilities of the job. This will provide an overview of the role but will not go into high level detail. You should clarify what the post holder will do and what/ who they are responsible for. Try to keep the language simple and avoid acronyms and abbreviations to appeal to a wider audience.

**Person Specification** - The person specification should be completed to show the key knowledge, skills, qualifications and experience required to perform the role effectively. In addition to facilitating the recruitment process, the information provided may also be used for other HR purposes such as job evaluation and re-organisations so it is essential to get this right.

Further detailed guidance can be found on our intranet page – [Guidance on writing job descriptions](#)