

## Research Role Profile

<b>Job Title:</b>	Research Fellow in Generative Semantic and Token Communication Technologies for Future Wireless Networks.
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<b>Responsible to:</b>	Principal investigator
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<b>Responsible for:</b>	Not applicable
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<b>Job Summary and Purpose:</b>	
To undertake research in accordance with the specified research project(s) under the supervision of the principal investigator.	

<b>Main Responsibilities/Activities</b>	
<p>To undertake a range of research activities within a specified research area, assuming responsibility for specific areas of projects and making use of new research techniques and methods, in consultation with the research award holder or supervisor. This may include laboratory experiments, computer-based simulations, library research, critical evaluation and interpretation.</p> <p>Using initiative and creativity to identify areas for development of new research methods and extend the research portfolio. Analysing and interpreting results of own research. Writing up results and preparing papers for submission to appropriate journals and conferences, and other outputs as required and/or appropriate. Attend appropriate conferences for the purpose of disseminating research results and personal development. The post holder may also contribute to writing bids for research grants and will contribute to collaborative decision making with colleagues in areas of research.</p> <p>Continually update technical knowledge and skills, and translate knowledge of advances in the area into the research activity.</p> <p>To plan and manage own research activity in collaboration with others. To carry out administrative tasks associated with specified research funding, for example risk assessment of research activities, organisation of project meetings and documentation. Implementation of procedures required to ensure accurate and timely formal reporting and financial control.</p> <p>To contribute to teaching in the Faculty by carrying out student supervision and/or demonstrating within the post holder's area of expertise and under the direct guidance of a member of departmental academic staff, as appropriate. The post holder may occasionally be required to supervise more junior research staff.</p>	

## Research Role Profile

### Person Specification

**The post holder must have:**

A PhD degree (or close to completing a PhD degree) with specialization in wireless communications or AI and computer vision fields. Postdoctoral research or industrial experience would be an advantage.

The post holder will have authority over some aspects of project work and must be capable of providing academic judgement, offering original and creative thoughts and be able to interpret and analyse results.

### Relationships and Contacts

Direct responsibility to the principal investigator or academic supervisor. The post holder may be asked to serve on a relevant Faculty committee. There may be additional reporting and liaison responsibilities to external funding bodies or sponsors. The post holder may work on original research tasks with colleagues in other institutions.

### Special Requirements

N/A

**All staff are expected to:**

- Positively support equality of opportunity and equity of treatment to colleagues and students in accordance with the University of Surrey Equal Opportunities policy.
- Help maintain a safe working environment by:
  - Attending training in Health and Safety requirements as necessary, both on appointment and as changes in duties and techniques demand
  - Following local codes of safe working practices and the University of Surrey Health and Safety Policy
- Undertake such other duties within the scope of the post as may be requested by your Manager

## Research Role Profile

### Addendum to Profile

<b>Job Title:</b>	Research Fellow – Generative Semantic and Token Communication Technologies for Future Wireless Networks
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#### Job Summary and Purpose:

This information sheet should be read in conjunction with the accompanying generic Research Role Profile and will be used for shortlisting processes. More specifically the post holder will be expected to:

The Institute for Communication Systems (ICS), home of the 5GIC & 6GIC, is looking to recruit a full-time Research Fellow to work on Generative and Token-based Semantic Communication Technologies for Future Wireless Networks for a fixed period of 18 months.

For this opening, the successful candidate will be required to have research experience in wireless communication systems as well as familiarity with design and training of state-of-the-art generative AI models, e.g. Diffusion Models, Multimodal Large Language Models, etc. The area of specialization for this post is Generative Semantic and Token Communication Technologies for Future Wireless Networks.

#### Main Responsibilities/Activities

- Perform literature study on various aspects of large generative AI models, Multimodal Large Language Models, etc. for semantic communications.
- Propose, design, implement, and analyse novel generative and token-based semantic communication approaches based on large generative AI models, Multimodal Large Language Models for future wireless networks
- Make recommendations for Generative Semantic and Token Communication Technologies that have the potential for creating / filing intellectual property rights
- Specify, design and implement the system(s) under investigation, representing the University in regular project meetings, and disseminating the results and findings in appropriate journals and conferences

## Research Role Profile

### Person Specification

#### The post holder must have:

- A good honors PhD in wireless communications or AI and computer vision fields.
- Research experience in wireless communications or AI and computer vision fields.
- A strong track record of publications in highly ranked IEEE journals or AI and computer vision venues.
- Familiarity with design and training of state-of-the-art large generative AI models, e.g. Diffusion Models, Multimodal Large Language Models, etc.
- Proficient programming skills.
- Problem solving and analytical skills.
- Teamwork and interpersonal skills.

Preference will be given to those with prior publications either in top-tier AI and computer vision venues (e.g., NeurIPS, ICML, ICLR, CVPR, etc.), or prestigious IEEE journals (e.g. IEEE JSAC, ComST, etc.).

### Relationships and Contacts

Direct responsibility to the principal investigator or academic supervisor(s). There may be additional reporting and liaison responsibilities to the external project partners.