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Job Description

Post title: **Senior Research Technician**

Date last updated/evaluated: July 2025

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Standard Occupation Code: 3111: Laboratory technicians

School / Department: Optoelectronics Research Centre

Faculty / Directorate: Engineering and Physical Sciences

Job Family: Technical and Experimental (TAE)

Grade: Level 4

ERE Pathway (if applicable): Not applicable

Post reporting to: Technical manager

Post line report(s): not applicable

Post base location: Campus **B53**

Job purpose: To provide specialist technical support and advice to the hollow core fibre group and its external customers.

To facilitate execution of project deliverables by fabricating optical fibres and glass components necessary for the assembly of optical fibre preforms.

To contribute to the development of novel fabrication recipes and to disseminate best practices to students and other staff members.

To assist with the improvement and management of fabrication facilities.

## Key accountabilities and indicative time allocation:

1. **35%**

Provide a repair and fault-finding service, including planned maintenance of equipment and devices within the work environment, advising on future resource requirements.

1. **25%**

Apply a full understanding of hollow core fibre to manage and deliver a range of complex work activities.

Prepare and draw a range of specialised glass preform and optical fibres. To ensure their strength and optical performance meet the requirements, and to support other team members in their draws and processes.

1. **10%**

Manage and deliver specialist technical support for the group. Define, develop, review and refine working practices to meet service and/or quality standards and objectives.

Use discretion and judgement to select from or adapt existing methods and techniques to achieve outcomes.

1. **5%**

Monitor and maintain appropriate records and reports to meet internal and external requirements (e.g., audit and compliance reports, service level agreements, health and safety records).

Assist in the creation of standard operating procedures for newly developed experimental processes.

1. **5 %**

Provide specialist technical advice, guidance and recommendations on the design, development and application of new and existing specialist techniques, equipment and/or procedures.

Ensure health and safety processes are understood and adhered to. Act as the area Health and Safety officer if required.

1. **5%**

Analyse, evaluate and interpret complex test results and other specialised information, data or concepts. Identify gaps in understanding, and methods of addressing these. Identify themes, consider implications and propose or develop solutions as appropriate.

1. **5%**

Supervise new researchers and junior colleagues, including apprentices, performing a range of complex, mostly standardised, technical or experimental activities.

Advise and assist staff and students in all aspects of technical or specialist support functions, directly or through delegation.

Effectively act as hiring manager, or member of a recruitment panel, throughout the recruitment process. Ensure recruitment aligns with strategic plans, promote diversity and inclusion, and ensure compliance with employment law. Implement best practice to enhance the candidate experience and support successful candidates through onboarding and induction

Actively contribute to, and support, Equality, Diversity and Inclusion initiatives within your role, ensuring that EDI principles are integrated into daily tasks and interactions.

1. **5%**

Manage or oversee assigned resources, monitor relevant budgets and contribute to short and medium-term resource planning processes. Advise on future resource requirements within own area.

1. **5%**

Any other duties as allocated by the line manager following consultation with the post holder.

Internal and external relationships:

Departmental and University senior management

Facility manager, cleanroom manager

Programme principal investigator

Other members of the hollow core fibre team, of the department/University staff

Relevant suppliers and external contacts

Project sponsor

Special requirements:

A strong desire to acquire and master new skills in the field of advanced fibre-optic fabrication & test.

Ability to maintain a safe working environment in accordance with Health and Safety procedures, within an advanced photonics laboratory

# Person Specification – Skills and Competencies

All essential and desirable criteria outlined in this Person Specification will be assessed through a combination of recruitment application and CV, and where applicable numerical or written assessment.

**Knowledge, Experience and Qualifications**

Essential

* Substantial and authoritative practical knowledge and experience in the fabrication of glass-based optical fibres and/or in the maintenance of cleanroom based equipment, supported by general theoretical understanding.
  + The required level of knowledge and understanding will normally have been gained through some or all of the following:
    - Considerable work experience
    - Vocational training
    - Formal qualification(s) equivalent to Level 5 or 6 of the [Regulated Qualifications Framework](https://www.gov.uk/what-different-qualification-levels-mean/list-of-qualification-levels) e.g. foundation degree or degree with honours, or Level 5 or 6 award, certificate, diploma, NVQ.
  + Knowledge, experience and competence may also be evidenced through professional registration:
    - Professional registration at the Registered Scientist (RSci) level will typically indicate partial competence at TAE Level 4.
    - Professional registration at the Incorporated Engineer (IEng) level will typically indicate full competence at TAE Level 4.
* Experience with working in cleanroom environment and handling specialist high-value fabrication tools
* Ability to make effective use of standard and specialist computers and control systems
* Experience using data acquisition and processing software, especially custom or industrial software installations

Desirable

* BSc or Higher Degree in Photonics Engineering, Applied Optics, Mechanical Engineering, Electrical Engineering, Physics or equivalent, with considerable work experience in a cleanroom-based manufacturing environment.
* Experience in the manufacturing of optical fibres, preferably hollow core optical fibres
* Experience with operating Glass working lathe and driving fibre drawing tower
* Experience with fibre-optic test & measurement equipment and techniques
* CAD and/or mechanical design proficiency
* Proficiency with mechanical workshop tools (e.g. Drill press, lathe, CNC)

**Teamwork and Communication**

Essential

* Delegates and/or collaborates effectively, understanding the strengths and weaknesses of colleagues.
* Works proactively with colleagues and other stakeholders, within and beyond the University, to achieve outcomes.
* Communicates effectively to develop understanding and achieve cooperation.
* Provides clear specialist advice, guidance and recommendations on complex issues.

**Planning, Organisation and Resource Management**

Essential

* Plans and progresses a rage of work activities within broad professional guidelines and established University policies and procedures.
* Formulates development plans to meet current skill requirements.

**Problem Solving and Initiative**

Essential

* Develops detailed understanding of long-standing and/or complex problems and applies professional knowledge and experience to resolve them.
* Demonstrates an awareness of principles and trends in a professional or specialist field and awareness of how this affects activities in the University.

# Job Hazard Assessment

A full health clearance is required for this role where any hazards marked “**^**”, using the agreed Occupational Health referral template [available from here](https://sotonac.sharepoint.com/teams/HealthWellbeing/SitePages/Occupational-Health.aspx). Where a full health clearance is required, this will apply to all role holders, including existing members of staff.

## Physical Environment

Working outside **^** Not applicable

Exposure to noise levels >80dbA **^** Not applicable

Working with dust or fumes **^** Occasionally <30% Time

Working with skin irritants **^** Occasionally <30% Time

Working with chemicals (industrial or cleaning) **^** Occasionally <30% Time

Working in a confined space **^** Not applicable

Working at height **^** Occasionally <30% Time

Working with sewage **^** Not applicable

Contact with cytotoxins **^** Not applicable

Exposure Prone Procedure (EPP) work **^** Not applicable

Contact with clinical specimens or pathology work **^**  Not applicable

Direct patient care or patient contact Not applicable

Exposure to temperature extremes Occasionally <30% Time

Frequent hand washing Not applicable

Ionising radiation Not applicable

## Psychological and Social Environment

Working shifts **^** Not applicable

Working nights **^** Not applicable

Lone working Occasionally <30% Time

Working with children Not applicable

Exposure to persons with challenging behaviourNot applicable

Working with larger groups Frequently 30-60% Time

## Equipment, Tools and Machines

Working with vibrating machinery or tools **^** Occasionally <30% Time

Driving duties e.g. LGV, PCVs, forklift trucks **^** Not applicable

Food handling Not applicable

Contact with latexFrequently 30-60% Time

## Physical Abilities

Prolonged physical movements or actions e.g. walking **^** Frequently 30-60% Time

Prolonged Standing or Sitting **^** Frequently 30-60% Time

Moving or handling heavy loads **^** Occasionally <30% Time

Repetitive pulling or pushing **^** Not applicable

Repetitive climbing (steps, stools, ladders, stairs) **^** Occasionally <30% Time

Repetitive crouching, kneeling or stooping Occasionally <30% Time

Repetitive lifting Not applicable

Fine motor grips (e.g. pipetting) Not applicable

Repetitive reaching below shoulder height Occasionally <30% Time

Repetitive reaching at shoulder height Frequently 30-60% Time

Repetitive reaching above shoulder height Occasionally <30% Time

# Behaviours

Our [Inclusion and Respectful Behaviour Policy](https://www.southampton.ac.uk/about/governance/regulations-policies/policies/inclusion-respectful-behaviour) describes the expectations of everyone who is a part of our community.

Our **Southampton Behaviours** (below) outline the responsibilities we each have in working collaboratively to achieve our University strategy.

**Personal Leadership**

- I take personal responsibility for my own actions and an active approach towards my development.

- I reflect on my own behaviour, actively seek feedback and adapt my behaviour accordingly.

- I demonstrate pride, passion and enthusiasm for our University community.

- I demonstrate respect and build trust with an open and honest approach.

**Working Together**

- I work collaboratively and build productive relationships across our University and beyond.

- I actively listen to others and communicate clearly and appropriately with everyone.

- I take an inclusive approach, value the differences that people bring and encourage others to contribute and flourish.

- I proactively work through challenge and conflict, considering others’ views to achieve positive and productive outcomes.

**Developing Others**

- I help to create an environment that engages and motivates others.

- I take time to support and enable people to be the best they can be.

- I recognise and value others’ achievements, give praise and celebrate their success.

- I deliver balanced feedback to enable others to improve their contribution.

**Delivering Quality**

- I identify opportunities and take action to make improvements.

- I plan and prioritise efficiently and effectively, taking account of people, processes and resources.

- I am accountable for tackling issues, making difficult decisions and seeing them through to their conclusion.

- I encourage creativity and innovation in others, to deliver workable solutions.

**Driving Sustainability**

- I consider the impact on people before taking decisions or actions that may affect them.

- I embrace, enable and embed change effectively.

- I regularly take account of external and internal factors, assessing the need for change, and gaining support to move forward.

- I take time to understand our University strategy and communicate this to others.