

## Candidate Information

<b>Position:</b>	Research Fellow in Plasmonic Materials
<b>School/Department:</b>	School of Mathematics and Physics
<b>Reference:</b>	18/106857
<b>Closing Date:</b>	Wednesday 7 November 2018
<b>Salary:</b>	£33,199 - £39,610 per annum (potential to progress to £43,266 per annum through sustained exceptional contribution)
<b>Duration:</b>	34 Months or 21 August 2021

### JOB PURPOSE:

To act as a post-doctoral research fellow on a Seagate Technology / Royal Academy of Engineering funded project on advanced materials for data storage within the Centre for Nanostructured Media in the School of Mathematics and Physics. The post holder will assist in the development of a research programme on the identification and evaluation of plasmonic materials with high thermal robustness for heat assisted magnetic recording and other high temperature applications. The role will involve close interaction and collaboration with Seagate Technology.

### MAJOR DUTIES:

1. Undertake a directed programme that combines materials selection techniques (e.g. literature, modelling, simulation) to identify candidate plasmonically active materials for heat assisted magnetic recording.
2. Lead and/or participate in materials synthesis for candidate plasmonic materials.
3. Lead and/or participate a plasmonic characterisation programme using a variety of optical probes (Ellipsometry, ATR, SNOM etc).
4. Lead and/or participate in characterisation of the materials structural characterisation using electron-microscopy techniques (SEM, AFM, XRD, HRTEM & FIB).
5. Interact and work with R&D staff from Seagate Technology in the delivery of the programme objectives and this will involve spending time at the Seagate Technology Springtown site.
6. Preparation and presentation of results in video conferencing with project partners and at national/international conferences and workshops as required or as opportunity arises.
7. Contribute to writing of papers for publication and of reports as necessary.
8. Identify further funding opportunities to consolidate the group's research and prepare outline proposals.
9. Assist with project-related outreach activities as required.
10. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines.

### Planning and Organising:

1. Ability to undertake day-to-day responsibility in running dedicated laboratory facilities, including own day-to day activity within framework of the agreed research programme.
2. Plan the use and scheduling of research resources, laboratories and workshops where appropriate with particular emphasis on forward planning ability in relation to technical support.
3. Plan details of research programme, particularly in relation to design and provision of samples within the partnership.
4. Ability to plan and organise in order to meet reporting/dissemination deadlines.
5. Coordinate and liaise with other members of the research group over work progress.

### Resource Management Responsibilities:

1. Ensure research resources are used in an effective and efficient manner.
2. Provide guidance as required to support staff and any students who may be assisting with research.
3. Manage consumables budget within project, including regular interaction with/briefing of QUB project leader.

**Internal and External Relationships:**

1. Interact on a regular basis with staff and students working on the project and cognate programmes and build good working relationships.
2. Assist with supervision of and liaise with PhD students and project student in the lab as required.
3. Establish good working relationship with technical and other support staff.
4. Undertake short periods of work based at the Seagate Technology (Springtown) R&D department.
5. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.

**ESSENTIAL CRITERIA:**

1. Have or be about to obtain a relevant PhD.
2. At least 3 years relevant research experience in plasmonics research.
3. Good publication/presentation record commensurate with stage in career.
4. Ability to contribute to broader management and administrative processes.
5. Demonstrable intellectual ability.
6. Ability to assess and organise resources.
7. Ability and willingness to collaborate in satellite projects.
8. Ability and willingness to work as part of a team.
9. This is a bi lateral project with Seagate Technology, and it is expected that the person taking up this job will work closely with the company, and other partners as necessary, including research visits and project meetings.
10. Ability and willingness to travel to partner institutions and scientific meetings.

**ADDITIONAL INFORMATION:**

Seagate Technology are a global leader in data storage. Over the last eight years they have sponsored research at Queen's University Belfast in the area of advanced materials for data storage and with a particular interest in the challenges of heat assisted magnetic recording. This successful programme led to the foundation of the EPSRC Centre for Doctoral Training in Photonic Integration & Advanced Data Storage in partnership with University of Glasgow. More recently a Royal Academy of Engineering Research Chair was awarded to its Principal Investigator (PI) and this Research post is to support the PI in delivering an enhanced programme of plasmonic materials development in partnership (valued at £1.4M) with Seagate Technology. During the post the successful applicant will be expected to work closely with Seagate Technology R&D staff and other PhDs and PDRAs. The Centre for Nanostructured Media has state of the art laboratories for materials synthesis (UHV sputtering & PLD), metrology (electric, magnetic and optical/photonic) and characterisations (SEM, XRD, multi-mode AFM, FIB and HRTEM).