



Candidate Information

Position:	Research Fellow in Magnetic Metrology
School/Department:	School of Mathematics and Physics
Reference:	19/107559
Closing Date:	Tuesday 2 July 2019
Salary:	£33,199 - £39,610 per annum (potential to progress to £43,266 per annum through sustained exceptional contribution)
Anticipated Interview Date:	Thursday 25 July 2019
Duration:	2 years

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 an integrated research programme combining atomistic computational modelling and experimental synthesis of magnetic films and multilayers. The role will involve close interaction and collaboration with Seagate Technology.

MAJOR DUTIES:

1. Undertake a directed programme to explore and exploit the integration of atomistic spin simulations in the development of magnetic thin films and multilayers applicable to magnetic data storage.
2. Synthesis synthetic magnetic multilayers in structures and dimensions applicable to spin computational modelling.
3. Utilise leading appropriate codes for the simulation of magnetic properties.
4. Utilise magnetic metrology as appropriate.
5. Develop and exploit collaborations to access characterisation at national infrastructure facilities.
6. 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.
7. Preparation and presentation of results in video conferencing with project partners and at national/international conferences and workshops as required or as opportunity arises.
8. Contribute to writing of papers for publication and of reports as necessary.
9. Identify further funding opportunities to consolidate the group's research and prepare outline proposals.
10. Assist with project-related outreach activities as required.
11. Read academic papers, journals, patents etc 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 the 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 experimental collaboration at major national facilities and to form relationships for future collaboration.

ESSENTIAL CRITERIA:

1. Have or be about to obtain a relevant PhD in the area of the role.
2. At least 3 years relevant research experience in;
Magnetic thin film and multilayer preparation using UHV sputter deposition
Use and application of the VAMPIRE code to elucidate and validate experimental results.
3. Experience of magnetic magnetometry (SQUID & VSM) to support computational modelling.
4. Publication/presentation record commensurate with stage in career.
5. Ability to contribute to broader management and administrative processes.
6. Ability to communicate complex information clearly.
7. Demonstrable intellectual ability.
8. Ability to assess and organise resources.
9. Ability and willingness to collaborate in satellite projects.
10. Ability and willingness to work as part of a team.
11. Ability and willingness to travel to partner institutions and scientific meetings.
12. 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.

DESIRABLE CRITERIA:

1. Has PhD.
2. Forming and developing collaborations to access appropriate national facilities.
3. Experience in writing for high quality scientific journals.
4. Experience of leading or working with other researchers (PhDs and PDRAS) in a team.
5. Experience in managing resources/facilities
Evidence of contribution to outreach / engagement programmes
6. Evidence of conference/meeting presentations of research findings.
7. Ability to communicate effectively with other disciplines.
8. Ability and willingness to build contacts and participate in internal and external networks.