GOVERNORS OF ARMAGH OBSERVATORY AND PLANETARIUM

Employment Application Form — Research Astronomers 2006/2007

Please complete all sections of the form in full and return it by the specified closing date, together with a full curriculum vitae, a statement of research interests and complete bibliography, to: The Administrator, Armagh Observatory, College Hill, Armagh, BT61 9DG, Northern Ireland, UK.

1. **Surname:** ..... **Other Names:** .....

   Address .....

   .....

   .....

   ..... **Postcode:** .....

   Tel (Home/Mob): ..... **Tel (Work):** .....

   e-mail: ..... **FAX:** .....

2. **Present or most recent employment, and full previous employment details (continue on separate sheet if necessary):**

Name and Address of Employer	Position	Dates	
		From	To

   Current Salary: ..... **Period of Notice Required:** .....

3. **Degrees awarded and membership of professional bodies:**

University or Professional Body	Degree or Qualification	Date

4. Brief description of position in organization and principal duties in present or most recent employment:

5. Academic References. Give the name, title and address of each referee, and the capacity in which you are known to them. It is your responsibility to ensure that references are submitted by the closing date for applications.

1.	**2.**	**3.** .....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
e-mail:.....	**e-mail**	**e-mail** .....
Tel:	**Tel:**	**Tel:** .....
FAX:	**FAX:**	**FAX:** .....
Capacity:	**Capacity**	**Capacity** .....

6. **Summary of principal research findings and results, including telescope time and any research grants and significant collaborations during the past 10 years, detailing projects, total financial value, duration, and staff involved (continue on separate sheet if necessary):**

7. **Teaching experience (second and third-level) including scientific presentations, public lectures and public outreach:**

8. **Please summarize your current and future research plans (continue on a separate sheet if necessary):**

9. **Please provide information on any other skills, experience, activities and interests which you believe may be relevant to your application:**

10. **I confirm that the information provided on this form is correct and I understand that any misrepresentation or omission may render me liable to dismissal if engaged. If offered an appointment, I agree to undergo a pre-employment medical examination if required. I understand that I will be required to provide documentary proof of all qualifications. By signing and returning this application form, I also consent to the Governors of the Armagh Observatory and Planetarium using and keeping any information about me, including information provided by me and by third parties such as referees.**

Signature: ..... **Date:** .....

GOVERNORS OF ARMAGH OBSERVATORY AND PLANETARIUM

Referee Report Form — Research Astronomers 2006/2007

Full Name of Candidate: .....

Name of Referee: .....

Institute and Position: .....

Contact Address: .....

Capacity in Which You Know the Candidate: .....

.....

Please rank the candidate by ticking the appropriate boxes below and providing brief comments or examples where appropriate to support your assessment. The marks 1–5 represent the following:

1. Outstanding 2. Consistently above average 3. About average 4. Poor 5. Unable to judge

Please return the completed form to The Administrator, Armagh Observatory, College Hill, Armagh, BT61 9DG, Northern Ireland. Tel: +44-(0)28-3752-2928; FAX: +44-(0)28-3752-7174; e-mail: lfy@arm.ac.uk.

Criterion	1	2	3	4	Comment	5
Academic record and potential						
Candidate has high standing; work has high impact and influence	☐	☐	☐	☐	Candidate has low standing; low impact and influence	☐
Strong publication record; good rate of publications; high quality work	☐	☐	☐	☐	Weak publication record; low rate of publications; low quality work	☐
Strong capacity to gain external research grants	☐	☐	☐	☐	Low grant earning potential	☐
Ability to identify new fields of high academic potential and world-wide activity/interest; often ahead of the field	☐	☐	☐	☐	Unable to identify and grasp new opportunities; works alone; follows, rather than leads	☐
Technical skills						
Strong analytic, numerical and/or computational skills	☐	☐	☐	☐	Weak analytic, numerical and/or computational skills	☐
Strong observational, data handling and modelling skills	☐	☐	☐	☐	Weak observational, data handling and modelling skills	☐
Writes well; communicates clearly and persuasively	☐	☐	☐	☐	Poor written and oral communication skills	☐
Research capacity and general knowledge						
Works well with minimal supervision; strong ability to direct and manage research programmes	☐	☐	☐	☐	Requires constant prompting/supervision; unable to lead/manage research programmes	☐
Exceptional research ability and insight	☐	☐	☐	☐	Limited research ability, poor insight	☐
Highly creative; strong drive	☐	☐	☐	☐	Limited creativity; no drive	☐
Well-read; wide scientific interests and technical expertise	☐	☐	☐	☐	Narrow interests; limited scientific knowledge and expertise	☐

Teaching and communication skills

	1	2	3	4		5
Strong ability to explain subject matter to others	☐	☐	☐	☐	Poor ability to explain material to others	☐
Ability to supervise PhD and other students	☐	☐	☐	☐	Poor supervisor	☐
Good lecturer; interested in teaching and public understanding of science; ability to communicate at all levels	☐	☐	☐	☐	Poor lecturer; uninterested in communicating results to students and others; inability to communicate well	☐

Motivation and working relationships

	1	2	3	4		5
Highly motivated; seeks and accepts responsibility at all times	☐	☐	☐	☐	Poor motivation; misses opportunities	☐
Good team spirit; open, friendly and active in group situations	☐	☐	☐	☐	Poor team spirit; sits back and lets others do the work	☐
Tactful and sensitive in dealing with colleagues and others	☐	☐	☐	☐	Tactless, can be abrasive dealing with colleagues and others	☐
Reliable, can be trusted	☐	☐	☐	☐	Unreliable, low integrity	☐

Please provide a summary assessment and any other comments about this candidate which you think may be relevant (continue on a separate sheet if necessary). Thank you for your time in completing this form.

Please indicate the confidence that you have in your assessment of this candidate.

Confidence of Assessment ..... High/Average/Low (please delete where appropriate)

Signature: ..... **Date: .....**

ARMAGH OBSERVATORY

Armagh, Northern Ireland

JOB INFORMATION: RESEARCH ASTRONOMERS 2006/2007

The Post

Essential and Desirable Criteria

Applicants must have a PhD in an appropriate discipline and current or previous postdoctoral employment in astronomy or a related science.

It is desirable that candidates have strong research interests in any branch of solar physics, solar-terrestrial physics including climate, and stellar or Galactic astrophysics, which should strengthen or complement the Observatory's existing research profile. Candidates should also have observational, theoretical, computational or modelling expertise, and experience of obtaining and/or managing grants and running an independent research programme.

The successful candidate will be expected to develop an independent research programme in his or her field of expertise, make a leading contribution to the Observatory's research profile, and attract research grants and research personnel into Armagh while playing a full role in all Observatory activities.

Main Duties and Responsibilities

The Research Astronomer will be expected to carry out and publish frontline scientific research in astronomy and related sciences, and to lead a research group including postdoctoral research fellows, PhD students and occasional visitors. He or she will be expected to obtain external funding from UK and other sources to help support, develop and expand this research programme. The Astronomer will also play a full and active role in the UK and Irish astronomical communities, for example by participating in the committees and assessment procedures of the PPARC and other funding agencies, serving on appropriate national and international committees, and attending relevant regional, national or international astronomical conferences. The Astronomer will play a leading role in developing and improving the Observatory's research profile and in helping the Observatory to achieve a high grade in any review of its research quality, for example the UK Research Assessment Exercise.

Other activities may include organizing conferences; helping to maintain and preserve the heritage of the modern observatory; developing the library, archives and the collection of historic scientific instruments; widening access to the unique meteorological record and maintaining its quality for future academic use; and engaging with schools and the general public as part of the Observatory's programme of lifelong learning and public understanding of science.

In addition to participating in these Observatory activities, the Astronomer will be expected to promote the activities of the Armagh Observatory locally, nationally and at international levels whenever circumstances permit. She or he will be expected to supervise PhD students, to undertake astronomical fieldtrips (which may occur at unsocial times, e.g. Christmas), to attend conferences to present new research results, and to carry out any other duties commensurate with the grade as deemed necessary by the Director of the Observatory.

There will be opportunities to become involved in a limited amount of teaching at various levels, which may include lecturing at nearby universities; using the Observatory's historic telescopes for research, student training or public outreach; supervising school and undergraduate students for periods of work-experience or summer project work; and assisting in the delivery of the Observatory's programmes of lifelong learning and public understanding of science.

The Astronomer will be required to provide, usually annually, summary reports of his or her research and other activities, together with details of grants received, allocations of telescope

time and lists of publications, talks, etc., as well as the corresponding information for the research assistants, students and other staff for whom she or he has responsibility,

Salary and Other Benefits

POST:	RESEARCH ASTRONOMER
SALARY RANGE:	The salary is based on the Northern Ireland Civil Service (NICS) Grade 7, currently in the range £31927 – £47866 (under review). Starting salary will depend on qualifications and experience, and progression on the scale will be based on performance. The salary is pensionable in accordance with the Northern Ireland Local Government Officers Superannuation Committee Scheme.
SUPERANNUATION:	The Astronomer will be entitled to join the Northern Ireland Local Government Officers Superannuation Scheme, in which the employee's contribution is currently 6%.
RESPONSIBLE TO:	Professor M.E. Bailey, Director, Armagh Observatory.
DURATION:	The position is a permanent post subject to a normal retirement age of 65.
CONTACT ADDRESS:	Armagh Observatory, College Hill, Armagh, BT61 9DG, Northern Ireland, UK. Tel: +44-(0)28-3752-2928; FAX: +44-(0)28-3752-7174; e-mail: meb@arm.ac.uk; web-site: http://star.arm.ac.uk/.

Application Procedure

Applicants should obtain an application pack from the Administrator or from the Observatory web-site, and send the completed application form together with a full curriculum vitae, statement of research interests and complete bibliography, by the closing date for applications to: The Administrator, Armagh Observatory, College Hill, Armagh BT61 9DG, Northern Ireland (Tel: +44-(0)28-3752-2928; FAX: +44-(0)28-3752-7174; e-mail: lfy@arm.ac.uk). Candidates should ensure that references from three referees are sent to the Administrator in time to reach the Observatory by the same closing date.

Dates to Remember

The Armagh Observatory is fortunate in attracting strong candidates for specific vacancies. Applications will be acknowledged, and shortlisting will take place as soon as practicable after the closing date. Short-listed candidates will be invited to Armagh for an interview on 25 October 2006.

In making the appointment we will adhere to the timetable set out below, unless you are subsequently notified otherwise.

CLOSING DATE:	Friday 8 September 2006
INTERVIEW DATE:	Wednesday 25 October 2006
START DATE:	2006 December 1 or as soon as possible thereafter

General Information

The Vision of the Armagh Observatory is:

> *"To maintain and build on its position as a thriving astronomical research institute, and to continue to expand our understanding of the Universe and of humanity's place in it."*

The Mission is:

> *"To advance the knowledge and understanding of astronomy and related sciences through the execution, promotion and dissemination of astronomical research nationally and internationally in order to enrich the intellectual, economic, social and cultural life of the community."*

The Armagh Observatory (see http://star.arm.ac.uk/) is a modern astronomical research institute, the oldest scientific institution in Northern Ireland. Founded by Archbishop Richard Robinson in 1790 as part of his dream to see the creation of a university in the City of Armagh, the Observatory stands close to the centre of the City of Armagh together with the Armagh Planetarium in approximately 14 acres of attractive, landscaped grounds known as the Armagh Astropark. The Observatory Grounds and Astropark include scale models of the Solar System and the Universe, two sundials and two historic telescopes, as well as telescope domes and other outdoor exhibits (see http://star.arm.ac.uk/astropark/). A new public outreach facility, the Armagh Human Orrery (see http://star.arm.ac.uk/orrery/), is located close to the historic main building of the modern Observatory. The Observatory's Library and Archives, and its specialist collection of scientific instruments and artefacts associated with the development of modern astronomy over more than two hundred years, rank amongst the leading collections of their kind in the UK and Ireland.

The principal function of the Armagh Observatory, which is a third-level institution funded by the Northern Ireland Department of Culture, Arts and Leisure (DCAL), is to undertake original research of a world-class academic standard that broadens and expands our understanding of astronomy and related sciences. In recent years key programmes have focused on Stellar Astrophysics, the Sun, Solar System astronomy, and Solar System – Earth relationships including the Sun's influence on climate and the impact of interplanetary dust, comets and asteroids on the Earth. Other activities include maintaining the unique 210-year meteorological series and data-bank (http://climate.arm.ac.uk/), the longest in the UK and Ireland from a single site, and playing a key role together with the Armagh Planetarium in promoting the public understanding of astronomy and related sciences.

Senior research staff at the Observatory are employed as Research Astronomers on a scale equivalent to the NICS Grade 7, which is roughly equivalent to the level of a university senior lecturer, reader or professor. Postgraduate students are registered at various UK and other European universities, but they are normally registered at the Queen's University of Belfast (QUB), which has recognized the Observatory as an approved institution for the supervision of PhD and MPhil. students. There is currently a fluctuating population of around 20 research staff including students, who are supported by a pool of 2 technical (computer-related) staff, 1 librarian, 1 secretary, 1 finance officer, and a senior administrator shared (50%) with the Armagh Planetarium. The 14 acres of landscaped Observatory Grounds and Astropark are maintained by an assistant groundsman and a senior grounds/meteorological support officer, the latter responsible also for taking the daily meteorological readings.

Technical equipment at Armagh, which is used primarily for numerical analysis, computer modelling and data reduction, is funded by the PPARC, PRTLI, and the DCAL. Facilities presently comprise several iMac workstations, approximately 40 Linux workstations and peripherals, and a computer cluster comprising 25 dual-processor work nodes and one master node with a total of 50 GB memory. These are used mainly for computationally intensive research

projects in areas such as solar physics, stellar atmospheres, numerical magneto-hydrodynamics, and solar system dynamics.

The internal network is a 1 Gbps backbone ethernet linked with switched hubs. The external network is connected to the Joint Academic Network (JANET) through a 10 Mbps link provided through the Observatory's participation in the Northern Ireland Regional Area Network (NIRAN). The increase in the Observatory's network capacity together with a continuing programme of equipment upgrades provides the capacity for the Observatory to participate in new developments such as the Virtual Observatory, the UK AstroGRID, the European Grid of Solar Observatories, the ESA SpaceGRID, and GRID Ireland. Access to Grid technology is currently provided via CosmoGrid (http://www.cosmogrid.ie/). This provides access to three high-performance supercomputer clusters, each comprising 128×1 GHz PCs, one in Galway and two in Dublin (DIAS and UCD).

Armagh Observatory staff regularly receive awards of telescope time on national and international facilities, and research grants from various grant awarding bodies. The Observatory is also a member of the UK SALT Consortium (UKSC), providing access to the 10-metre class Southern African Large Telescope (SALT: see http://star.arm.ac.uk/SALT/), located at the Sutherland Observatory, South Africa. The recent restoration of the Observatory's historic telescopes has brought opportunities to reintroduce professional observing from Armagh, both for research and student training, particularly through use of the 18-inch Calver reflector equipped with a new CCD camera and by the creation of a new video camera system systematically to record meteors.

Research interests of Observatory staff currently focus on (i) Stellar and Galactic Astrophysics (including star formation, brown dwarfs, hot stars, helium stars); (ii) the Sun (the dynamic solar atmosphere, chromosphere and corona, and Sun-Earth relationships including climate); and (iii) Solar System Astronomy (including celestial mechanics, planetary science, the interrelationships between comets, asteroids, meteoroids and interplanetary dust, and NEOs). In addition, Observatory staff participate in an active programme of education and public outreach via lectures, popular astronomy articles and interviews with the press, radio and television. Further details concerning recent and current research interests of Armagh Observatory staff may be obtained from the Observatory web-site, at http://star.arm.ac.uk/.

The Armagh Observatory participates in the UK Research Assessment Exercise (RAE), held in 1992, 1996, and 2001. This gives external partners, such as UK charities and the research councils, information upon which to base their funding allocations. Staff at the Observatory achieved a Grade 4 in the Physics Unit of Assessment in each of the 1992, 1996, and 2001 RAEs, corresponding to "Quality that equates to attainable levels of national excellence in virtually all of the research activity submitted, showing some evidence of international excellence." The census date for the next RAE, called "RAE 2008", is 31 October 2007.

In addition to the institution's primary research role, the Observatory has an important responsibility to maintain and preserve the fabric of the historic buildings, the library, historic books and archives, and the collection of scientific instruments and other artefacts built up over more than 215 years of continuous astronomical activity in Armagh. The main historic buildings of the Observatory have unique architectural features and together house some of the most valuable collections of scientific books, instruments and archives in Northern Ireland. Full details about the Armagh Observatory and its current research and other activities can be obtained from recent annual reports, at http://star.arm.ac.uk/annrep/.

RESEARCH ASTRONOMER POSITIONS

Solar Physics, Stellar and Galactic Astrophysics

Two permanent Research Astronomer positions funded by the Northern Ireland Department of Culture, Arts and Leisure (DCAL) are available from 2006 December 1 for suitably qualified candidates to work at the Armagh Observatory. The Observatory has full access to all UK facilities, and is eligible for research grants from the Particle Physics and Astronomy Research Council (PPARC) and other funding organizations. Facilities for computing and data reduction are excellent and include several iMac workstations and approximately 40 Linux workstations and peripherals, as well as a computer cluster comprising 25 dual-processor work nodes and one master node with a total of 50 GB memory. The Observatory is also a member of the UK SALT Consortium.

Applicants must have a PhD in an appropriate discipline and current or previous postdoctoral employment in astronomy or a related science. It is desirable that candidates have strong research interests in any branch of solar physics, solar-terrestrial physics including climate, and stellar or Galactic astrophysics, which should strengthen or complement the Observatory's existing research profile. Candidates should also have observational, theoretical, computational or modelling expertise, and experience of obtaining and/or managing grants and running an independent research programme.

Successful candidates will be expected to develop an independent research programme in their respective fields of expertise, make a leading contribution to the Observatory's research profile, and attract research grants and research personnel into Armagh while playing a full role in all Observatory activities.

The salary, which is pensionable, is based on the Northern Ireland Civil Service (NICS) Grade 7, currently in the range £31927 – £47866 (under review). Starting salary will depend on qualifications and experience, and progression on the scale will be based on performance. The positions are permanent posts subject to a normal retirement age of 65.

Enquiries and requests for further information may be made to the Director, Professor M.E. Bailey, at the address below, or by e-mail to meb@arm.ac.uk. Information about the Armagh Observatory may be obtained by consulting the web-site: http://star.arm.ac.uk/.

The closing date for receipt of applications is 2006 September 8. Applicants should obtain an application pack from the Administrator or from the Observatory web-site, and send the completed application form together with a full curriculum vitae, statement of research interests and complete bibliography, by the closing date for applications to: The Administrator, Armagh Observatory, College Hill, Armagh BT61 9DG, Northern Ireland (Tel: +44-(0)28-3752-2928; FAX: +44-(0)28-3752-7174; e-mail: lfy@arm.ac.uk). Candidates should ensure that references from three referees are sent to the Administrator in time to reach the Observatory by the same closing date.

The Armagh Observatory is an equal opportunities employer.