

**MINUTES OF THE EIGHTY SIXTH MEETING OF THE MANAGEMENT COMMITTEE OF
ARMAGH OBSERVATORY AND PLANETARIUM HELD ON 21 JUNE 2012 AT 10.30 A.M. IN
THE CASSINI ROOM, ARMAGH PLANETARIUM**

- Present: His Grace, The Most Reverend A.E.T. Harper (Chairman), Mr B. Hannam, Professor A. Hibbert, Professor T. Ray and Mrs P. Wilson
- Apologies: Mr E. Donnelly, Archdeacon R. Hoey, Dr M. McKay, Professor M. Merrifield, Professor R. Oudmaijer, Mr A Peoples, Mr S. Shields and Mr M. Cory (DCAL)
- In attendance: Professor M. Bailey, Dr T. Mason, Mr A. Hughes (DCAL observer) and Mr J. Copeland

1. CONFLICTS OF INTEREST

Members declared no conflicts of interest.

2. MINUTES OF THE MANAGEMENT COMMITTEE MEETING HELD ON 9 FEBRUARY 2012

- 2.1. The minutes of the meeting of 9 February 2012 were approved by members and signed by the Chairman as a correct record of the meeting.

3. MATTERS ARISING FROM THE MINUTES

The Chairman referred to the following matters:

- 3.1. Minute 3.1, 5.14.4 and 6.3 – The personnel matter was dealt with in the report of ARMC and in Dr Mason's interim report and is now closed.
- 3.2. Minute 3.3 – The issue of whether the equal pay compensatory sum applied to Observatory and Planetarium staff remains unresolved.
- 3.3. Minute 3.4 – Professor Bailey updated members on the problems of sourcing expert advice on the maintenance of the Grade A Observatory building. Mr Copeland tabled a draft tender to procure specialist services to maintain and protect the Observatory building. This was to be progressed as soon as possible.
- 3.4. Minute 3.5 – The issue of the Meridian Markers was raised and Professor Bailey was asked to work with Mrs Wilson to identify the owner of the southern Meridian Marker with a view to determining whether the marker could be taken into guardianship of NIEA.
- 3.5. Minute 3.7 – Insurance Survey – One of the ten recommendations from the insurance survey remains outstanding. This related to a guardrail on the mezzanine floor of the Planetarium administration building, which is too expensive to implement. In the interim staff access to this part of the building is restricted.
- 3.6. Minute 3.8 and 5.7.5 – Professor Bailey was still investigating the whether QUB-accredited staff and students might be able to access online journals via the QUB portal. On the issue of the Memorandum of Agreement with QUB, this was still being considered by the University.
- 3.7. Minute 3.12 – Dr Mason advised members that he had not completed his review of all Planetarium job descriptions and job titles for referral to the Employment Conditions and Remuneration Committee.
- 3.8. Minute 3.13 – An update on the matter of the subsidised pension contributions issue was dealt with in the report of the Chairman of ARMC.
- 3.9. Minute 3.15 – Mrs Wilson and Professor Bailey had held a preliminary meeting with the HLF with a view to progressing an outline application for the new library building as soon as possible.
- 3.10. Minute 5.4.2, 6.13 and 6.15 – Mr Copeland advised that (a) fraud awareness training took place on 12 and 26 March 2012 and (b) a one-page summary of the implications of the Bribery Act had been produced.
- 3.11. Minute 5.15.1 – Dr Mason advised members that he had ordered iPad 3 touchpads instead of older iPad 2 equipment and that these were about to be installed in the Planetarium display areas.

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- 3.12. Minute 6.4 (a) – The proposed Internal Audit Plan was included in the report of ARMC.
- 3.13. Minute 6.5 – The revaluation of corporation land and buildings was included in the report of the Chairman of ARMC.
- 3.14. Minute 6.6 – Professor Hibbert advised members that he would be meeting staff from the Observatory and Planetarium after the Management Committee meeting to address the anonymous complaint received by a member of the Management Committee about communications between Directors and staff.
- 3.15. Minute 6.8 – Members had advised of no conflicts of interest with the provision of external audit services by Miscampbell and Co.
- 3.16. Minute 6.9 (c) – Review of Internal Audit Provision – Members and staff had accepted the report's recommendations.
- 3.17. Minute 6.15 – Extension of ASM Accountants contract for provision of Internal Audit services – this has been extended by one year to 31 March 2013.

4. CHAIRMAN'S BUSINESS

- 4.1. The Chairman advised that that he was to retire as Archbishop of Armagh on 30 September 2012 and the Council of Bishops will elect his successor. He had enjoyed his tenure as Chairman of Board of Governors and thanked members, Directors and staff for their efforts in promoting the work of the Observatory and Planetarium.
- 4.2. Professor Hibbert, on behalf of the Management Committee, expressed regret on the announcement of the Archbishop's retirement and thanks for his services and advice to the Board of Governors, Management Committee and staff. Professor Hibbert advised members that he would write on behalf of the Management Committee to formally thank him for his services to the corporation.
- 4.3. Professor Hibbert advised that he would not be in the UK in November 2012 and an acting Deputy Chairman may be required for the November 2012 meeting if the new Archbishop is not available.

5. DIRECTORS' INTERIM REPORTS

Professor Bailey referred to the following matters in the Observatory interim report:

- 5.1. Key Performance Indicators - Details of the Observatory's Key Performance Indicators (KPIs) and a comprehensive summary of the Observatory's 2011 and 2011/2012 annual performance outturn as well as an in-year summary of results so far for 2012 and 2012/2013 were provided.
- 5.2. DCAL Funding - Details of the Observatory's income and expenditure up to 2012 May 31 were provided as were the in-year spend to date compared with the 2012/2013 Business Plan projections.
- 5.3. Research, Conferences, Training and Meteorology
 - 5.3.1. Advances in Astronomy and Astrophysics – (a) Biosignatures Revealed by Spectropolarimetry of Earthshine: Stefano Bagnulo played a key role in the work of a small international team of astronomers who developed a novel approach to study the surfaces and atmospheres of planets orbiting stars other than the Sun using the technique of spectropolarimetry, (b) Evolution of Halley-type Comets: PhD student Aswin Sekhar has modelled the evolution of comet 1P/Halley over more than 12,000 years in the past and 15,000 years into the future with a view to determining the dynamical evolution and distribution of the dust or meteoroids (around the orbit) released by the comet at successive perihelion passages, (c) X-Ray Observations of Helium-Accreting Binary System KL Dra: Gavin Ramsay reports on the most sensitive X-ray observations ever made of a helium accreting binary system during an outburst cycle. KL Dra has a binary orbital period of 25mins and undergoes outbursts every two months. Since the times of the eruptions are relatively predictable, it was possible to schedule observations of KL Dra using the X-ray satellite XMM-Newton several weeks in advance of the next expected outburst, (d) Conference Talks: Gavin Ramsay and Simon Jeffery both gave presentations at the third

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international workshop on AM CVn binaries held at the University of Warwick in April. Ramsay's talk was titled 'Outbursts in AM CVn Binaries' and Jeffery's was titled 'White Dwarf Merger Outcomes', (e) Observing Time: The Lindsay Scholar, Gráinne Costigan, reports that she obtained 17 nights observing time on the MPG/ESO 2.2-metre telescope at La Silla Paranal Observatory, Chile, to undertake photometric monitoring of young stellar objects in the star-forming region Cha I. (f) Fraud Awareness Training - The majority of Observatory staff and students attended the mandatory Fraud Awareness training on 2012 March 12, provided by the head of DARD Central Investigation Services (CIS), and (g) Graduate Course on 'Imaging and Data' - The majority of the Observatory's PhD students attended by telecommuting the graduate physics course 'Imaging and Data' over the period 2012 June 12–15. The course is part of the UCD-TCD Dublin Graduate Physics Programme, developed as part of Ireland's PRTL 5 programme.

- 5.3.2. Visitors – (a) Research visitors – In addition to visitors coming to Armagh as part of the seminar programme or for specific workshops or conferences, The Director detailed the steady flow of research visitors who come to Armagh every year to collaborate with staff at the Observatory on joint research projects and (b) Other Visitors - Sir John and Lady Sheila Houghton, 2012 May 16, associated with the inaugural lecture of the Armagh Faith and Science Partnership.
- 5.3.3. Technical Equipment – High-Performance Computing – As a result of additional Capital funding provided by the Department towards the end of 2011/2012, the Observatory has been able to procure two high-performance workstations, a Dell PowerEdge R815 system and a Dell PowerEdge R810 system. These have been separately configured specifically for computationally intensive spectral synthesis codes, first to enable rapid turnaround of grids of stellar atmosphere models in the field of stellar spectropolarimetry, and secondly to compute detailed stellar radiative transfer models in the outflowing winds from the most massive stars in the Universe, driven by radiation pressure.
- 5.4. Museum, Library, Archives and Donations
 - 5.4.1. Archives – As a result of the ongoing collaboration with the Armagh Public Library, during the first half of 2012 the archivist has focused mainly on post-1917 material in the Archives Room, specifically property related papers, Boyden Observatory papers and Armagh Observatory administrative papers. These elements of the Observatory's archives had previously only partly been catalogued and numbered, and none of their locations were registered. Approximately 1125 items were worked on in this way during the first quarter of 2012.
 - 5.4.2. Widening Access – The Computer Systems Manager, Martin Murphy, has continued to develop the Observatory's web sites so as to improve access to many of the Observatory's facilities, especially to some of the most interesting areas of the historic main building and the Observatory Grounds, Telescope Domes, Human Orrery and Astropark.
 - 5.4.3. Historic Instruments – (a) Loan of Six-Inch Reflector, by Thomas Short, London, 1768/1769: This historic telescope from the George III collection was collected by the National Maritime Museum's couriers on 2012 March 22 for display as part of the National Maritime Museum exhibition "Royal River: Power, Pageantry and the Thames", an exhibition which celebrates a number of significant anniversaries, including the Queen's Diamond Jubilee.
 - 5.4.4. Donations – The Observatory received donations of books and other materials from former staff, authors or editors of books and other bodies as follows: (a) 'Risk' (L. Skinnis, M. Scott, Cox, T., 2011, Cambridge University Press), donated by Mark Bailey, (b) 'The European Southern Observatory and Czech Astronomy' (Hadrava, P., 2006, Academia, Praha, Czech Republic), donated by Oldřich Vlasák, (c) 'The Great Melbourne Telescope' (Gillespie, R., 2011, Museum Victoria Publishing, Melbourne, Australia), donated by Richard Gillespie, (d) CD from Mati Morel (Variable Stars South Section, Royal Astronomical Society of New Zealand) containing various historic lists and catalogues of Galactic objects, namely: Dark Nebulae; Galactic OB Associations; LMC OB Stars; the Magellanic Clouds; the Orion Nebula Region; the Reed Areas (in Puppis); and the Sharov

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Sequence Catalogue (1953– 1968). This includes his monumental revision of former Research Astronomer David Andrews's catalogue of stars around the Orion Nebula region, M42, and (e) 'Royal River: Power, Pageantry and the Thames' (Starkey, D, Doran, S, Blyth, R., 2012), donated by Kara Green, Royal Museums Greenwich.

- 5.4.5. Collaboration with Armagh Public Library – As a result of the very successful collaboration between the Armagh Observatory and the Armagh Public Library during the past several years, further applications led by the Assistant Keeper and Archivist of the Armagh Public Library have now been made for external grant aid to extend this joint work.
- 5.5. Science in the Community, Buildings, Grounds and Astropark
 - 5.5.1. Science in the Community – (a) School Work-Experience and Summer Programme – A list of school work-experience students supervised by Armagh Observatory staff during 2012 was provided, (b) Staff at the Observatory, led by Simon Jeffery, will continue to support the Nuffield Sentinus programme during 2012, with the aim of supervising four school work-experience students on advanced research projects associated with the Nuffield STEM Bursary Scheme, (c) Undergraduate/Graduate Work-Experience and Summer Programme - One IAESTE student (Takuya Fujiki, Kyushu University, Higashi-Ku, Fukuoka, Japan) was recruited on to the IAESTE undergraduate exchange programme for a six-week summer research project and will work at the Observatory from 2012 July 9 to August 10 on a meteor astronomy project supervised by Apostolos Christou, (d) In addition, Observatory staff have supervised (or will supervise) a further four undergraduates from QUB, the University of Cambridge and Universities in France and Turkey.
 - 5.5.2. Lifetime Opportunities – (a) Targeting Social Need: The Librarian, John McFarland continues to supervise a young adult with complex needs for 3–4 hours per week on library and archives duties, (b) During late 2011 a second such person joined the Observatory for a similar amount of time one day a week. He is currently being supervised by the Grounds and Meteorological Officer, Shane Kelly, on a project to improve documentation of the flora and fauna in the Observatory Grounds and the Phenology Garden, and (c) As part of the Observatory's contribution to support one of the Northern Ireland Executive's key Programme for Government commitments to support young people not in work by the provision of skills and training, the Observatory is providing an eight-week summer work-experience placement for an individual under the Department of Employment and Learning (DEL) programme 'Steps to Work', in partnership with Wade Training.
 - 5.5.3. Northern Ireland Children's University (NICU) – The National Children's University (CU) was founded in 2007 with the aim of encouraging young children to develop new knowledge, skills and habits of learning by undertaking a variety of 'extramural' courses at nearby accredited institutions or 'Learning Destinations'. The concept of the NICU aligns closely with the philosophy of lifelong learning underpinning the Observatory's involvement in Universe Awareness (UNAWA), and with EU-UNAWA and the NI Executive's Stem Strategy. It is intended that the Observatory will become involved in the NICU as a Learning Destination.
 - 5.5.4. Faulkes Telescope – (a) David Asher reported that the Observatory's Faulkes Telescope programme in collaboration with secondary schools has continued using observing time kindly provided by the Faulkes Telescope Project (Cardiff) and the Las Cumbres Observatory Global Telescope Network, and (b) David Asher also supervised three students from St. Patrick's Grammar School, Armagh, on Faulkes Telescope projects in early 2012 April, and in this case they not only observed a newly discovered kilometre-diameter Near-Earth Object, providing the first accurate determination of its orbit (reported under observations of 2012 FM52 in the Minor Planet Electronic Circular MPEC 2012-G19, dated 2012 April 3), but also made photometric measurements of the unusual eclipsing binary HW Virginis, an Algol-type variable 'star'. Changes in the precise timing of the two minima of this eclipsing binary can be used to constrain the properties of the

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system's two sub-stellar companions, believed to have masses of the order of 10 to 20 times that of Jupiter, orbiting the binary with respective orbital periods of several years and approximately a decade.

- 5.5.5. Universe Awareness (UNAWA) – (a) Libby McKearney and Mark Bailey delivered two one-day primary-sector teacher cross-border training courses during 2012 March, one in the Donegal Education Centre and one in the Monaghan Education Centre, reaching a total of 24 teachers, and through them up to approximately 1,800 children per year, (b) They provided a further one-day course in the South Eastern Education and Library Board (SEELB) Headquarters at Dundonald, Belfast, accommodating a further 13 teachers and through them up to another approximately 745 children per year, and (c) A follow-up course for teachers from the first two of these workshops took place at the Observatory on the afternoon of 2012 May 1.
- 5.5.6. Public Lectures, Special Events and Other Activities – (a) St. Patrick's Day Public Lectures and Tours, 'Discovering the Universe': The Observatory organized two back-to-back public lectures on the morning of St. Patrick's Day 2012 March 17, and a programme of afternoon tours of the Observatory Grounds, Human Orrery and Astropark, as well as an exhibition in the Boardroom to display the Short Reflecting Telescope used by King George III and other artefacts from the Observatory's Library, Archives and Museum Collection, concerning the 1769 Transit of Venus. Approximately 55 people attended the two public lectures. The first lecture, 'The Science of Armageddon: An Update', was given by Jay Tate (Spaceguard Centre, Knighton, Wales); and the second, 'Measuring the Solar System: The Eighteenth-Century Transits of Venus', was by Emeritus Research Astronomy, John Butler. A further approximately 35 people attended the afternoon tours of the Observatory Grounds and Astropark and the Transit of Venus exhibition. Funding to support both these St. Patrick's Day events was provided by the DCAL as part of Creativity Month 2012, (b) Transit of Venus, 2012 June 5/6: John McFarland organized a special exhibition during the period 2012 June 1 to June 12 to mark the 2012 June 5/6 Transit of Venus. Although the weather was cloudy and wet around dawn in Northern Ireland when the transit might in principle have been visible, Apostolos Christou reports that he was able to observe the event from the town of Lavrion, approximately 30 km south-east of Athens, Greece, and (c) From Earth To The Universe (FETTU) - The posters created as part of the 2009 International Year of Astronomy Cornerstone project 'From Earth To The Universe' (FETTU) remain available for public use and towards the end of 2011 and early 2012 were loaned to the Irish Astronomical Association (IAA) for use in several of the IAA's well supported outreach events. Towards the end of March 2012 a number of FETTU posters were reprinted and installed on the East wall of the Library. This provides a very attractive outdoor display of a set of attractive and inspiring astronomical images for visitors who may walk up the path from the Planetarium to the Human Orrery (or vice versa). Ms Joan Thompson and colleagues (LibrariesNI) facilitated the display of these posters at various Library locations within Northern Ireland. Libby McKearney presented a short talk about the posters and the associated virtual journey 'From Earth To The Universe' to an audience of 45 primary school students and their teachers. It is intended that the posters will subsequently be displayed in the 'Gap Room' of the newly refurbished library. This represents a very positive collaboration between the Observatory and LibrariesNI, working together as part of DCAL's Learning Strategy.
- 5.5.7. Group Visits and Guided Tours – Observatory staff and students continue to host a wide range of group visits and guided tours of the Observatory, Astropark and Human Orrery, involving both formal and informal visiting groups, and covering people of all ages and backgrounds. The largest tours were visits by the Ballygawley Mothers' Union on 2012 May 5; approximately 40 Year 11 students (KS4, ages c.15–16) from St. Patrick's Grammar School, Armagh, who visited the Observatory over the two days 2012 January 25 and January 31 to learn about the meteorological station, its instruments and the methods used to record the daily weather parameters and the long-term climate archive; a further visit by 22 such GCSE students studying Geography 2012 March 5; and approximately 35

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members of the public, families and children who participated in the Observatory's St. Patrick's Day afternoon programme of a guided tour of the Observatory Grounds and Astropark followed by a tour of the Observatory and an exhibition of the Transit of Venus in the Boardroom.

- 5.5.8. Observatory Buildings, Grounds and Astropark – (a) Improving Interpretation in Observatory Grounds and Astropark: A set of eight new interpretation panels was installed on the east wall of the Library towards the end of 2012 March. The new panels, part of the Observatory's 'From Earth To The Universe' (FETTU) exhibition, (b) Using funding provided from DCAL, the opportunity was provided to update and reprint a set of six RAS leaflets to support the Observatory's programme of education and public outreach as well as two Observatory leaflets ('A Tour of Armagh Observatory' and 'The Armagh Observatory Astropark') the supply of which had almost run out. (c) The repair of the historic broken pane of glass in the Staffroom, broken by a window cleaner employed by CPD, has proved to be very much more problematic than was first imagined. The Librarian, John McFarland, has been liaising with a glass conservator, Ms Claire Magill, in order to get the work done, and it is hoped that it will be able to complete the necessary work during summer 2012, (d) Anti-Social Behaviour in Observatory Grounds and Astropark: Although approximately 50,000 people every year use the Observatory Grounds and Astropark perfectly peacefully and for the main purpose of education and leisure, a small minority of people cause physical damage. During 2011/2012 such incidents occurred roughly once a month during the summer and autumn periods. The total cost of repairs and maintenance to the fixtures and exhibits in the Grounds and Astropark owing to vandalism and related anti-social behaviour was approximately £2k during 2011/2012, and (e) SELB had to remove two mature Horse Chestnut trees, affected by *Pseudomonas Syringae*, in the Observatory Grounds leased to the Armstrong Primary School and replace these with two new oak trees.
- 5.5.9. Press Releases, Media Citations and Media Coverage – (a) 12 press releases were issued during the calendar year 2012 up to 2012 May 31, all of which were picked up and published at least once. There were also approximately 154 identified media citations in the same period, highlighting the Observatory's continuing high public profile on the UK and international stage and (b) Public Queries and Correspondence: John McFarland reports that he dealt with approximately 90 caller, e-mail, letter and telephone enquiries during the calendar year 2012 up to 2012 May 31, including some that have required significant further research and follow-up correspondence. Other members of staff also frequently provide responses to press and other public enquiries on astronomy and/or what has been seen in the night sky, but these are not centrally recorded.
- 5.5.10. Other Outreach Activities – (a) Great British Railways, BBC2: John McFarland reported that the visit by Michael Portillo to the Observatory on 2011 August 31, in which he was interviewed for an episode of the BBC2 programme 'Great British Railways' (c.5 million viewers), was broadcast on 2012 Wednesday February 1, (b) CBBC Television: The film clip flowing from the Children's BBC television visit to the Observatory and Planetarium on 2011 July 30 was broadcast as part of the CBBC programme 'All Over the Place' on 2012 February 8. This single film clip is estimated to have reached more than a million children, (c) Great British Story: A People's History, BBC2: John McFarland reports that he hosted a visit and was interviewed on 2012 January 14 for MayaVision International, a television company who are making a documentary for BBC2 on the history of the British people. The programme was broadcast on BBC2 on 2012 May 20, (d) Faith and Science Partnership: Mark Bailey has served on the steering committee of the newly established Faith and Science Partnership, an initiative of the Armagh Branch of U3A, the University of the Third Age. The first public event organized by this body, largely supported by the Armagh City and District Council and the North-South Ministerial Council, was a Schools Lecture 'God, Science and Global Warming' on the morning of 2012 May 15 by Sir John Houghton, former Director of the UK Meteorology Office and former co-chair of the Scientific Assessment Working Group of the UN Intergovernmental Panel on Climate

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Change (IPCC). Approximately 80 children aged 14–16 from three local schools attended this event in the Market Place Theatre. The Schools event was followed by an evening public lecture on the same subject by Sir John Houghton, followed by a panel discussion and questions. The evening lecture, which was introduced by Archbishop Alan Harper and chaired by the BBC's presenter Mark Carruthers, attracted much publicity and an audience of approximately 250 people and stimulated lively discussion and debate, (e) 'Celestial Sphere' and 'Turning Point': Research Astronomer Stefano Bagnulo and Mark Bailey had worked over a period of time with a subcommittee of the Armagh City and District Council to help select and advise on the location of new public art in the city. A new piece, 'Turning Point', had previously been installed in St. Anne's Square, Belfast, but was later moved and damaged in the process. For many years it lay in a state of disrepair in a quarry near Belfast. However, as a result of Bagnulo's initiative in drawing attention to this piece, it has now been refurbished and brought to Armagh for installation in a new location at the south end of the Mall. Armagh City and District Council organized a simple ceremony for 2012 May 28 to mark the installation of the newly refurbished 'Turning Point'.

- 5.5.11. Future Events – (a) Beaghmore Summer Solstice Events: The Armagh Observatory is working in partnership with the Northern Ireland Environment Agency (NIEA) to provide a series of free public events at Beaghmore Stone Circles, Co. Tyrone, for the day of the civic summer solstice, 2012 June 21. The events include (i) a cycle of archaeological and astronomical activities directed at primary school children as part of the Observatory's EU-UNAWA programme led by Libby McKearney with the support of Observatory students and NIEA facilitators; (ii) astro-archaeological tours of the site led by NIEA archaeologist Claire Foley and Mark Bailey; and (iii) activities including solar observing with members of the Irish Astronomical Association and bog probing to search for further examples of stones or stone rows that may still be hidden under the peat and remain to be found, and (b) Robinson Lecture: The next Robinson lecture is scheduled for Thursday 22nd November. The Robinson Lecturer is Professor David Southwood, President of the Royal Astronomical Society, who will speak on the subject "To Mars, Titan and the Universe Beyond! Europe's Arrival on the Space Frontier". The 2012 Robinson Lecture will be preceded by a Robinson Schools Lecture, also by David Southwood, which will be held in the Royal School Armagh on the afternoon of Wednesday 21 November 2012. The subject of this lecture is "What is Space Exploration About?"

5.6. Governance and Accountability

- 5.6.1. Staff and Staff Movements – (a) PhD Student Update: Shenghua Yu, registered at Queen's University Belfast, was examined on 2012 March 20 and recommended for the degree of PhD. His PhD is entitled "Radio Emission from Ultra Cool Dwarfs and the Relevant Radiation Mechanisms", (b) Naslim Neelamkodan, registered at Queen's University Belfast, was examined on 2012 March 27 and recommended for the degree of PhD. Her PhD is entitled "Abundance Analysis of Helium-Rich sdB Stars", (c) Geert Barentsen, registered at Queen's University Belfast, submitted his thesis on 2012 May 24 and will be examined later in the year. His PhD is entitled "Star Formation in the Northern Galactic Plane Using the IPHAS Survey". He has obtained a 3-year postdoctoral fellowship at the University of Hertfordshire, to work with Professor Janet Drew on the project "The Multiwavelength View of Dust in the Galactic Plane", (d) Colin Folsom, who had his registration at Queen's University Belfast suspended owing to a chronic illness, has been re-registered with effect from 2012 June 1. He is now beginning to write up his thesis, (e) Mark Bailey's position as Honorary Professor at Queen's University Belfast has been extended for a further three-year period to 2015 March 28 and (f) In response to a question from DCAL on 2012 May 15, it has been confirmed that the Administrator, Joe Copeland, is the Senior Responsible Officer (SRO) for Procurement.
- 5.6.2. Risk Register – The most recent version of the Observatory's risk register, last updated 2012 March 20, was appended to this report for information and comment as appropriate, as too was a copy of the Director's most recent Quarterly Assurance Statement for the period 2012 January 1 to March 31, last updated 2012 May 3.

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- 5.6.3. DCAL Media Communications Protocol – The Director responded to consultation concerning the Department’s draft Media Communications Protocol (MCP), which was circulated for comment to all DCAL Arms-Length Bodies (ALBs) during 2011 September.
- 5.6.4. Reducing Running Costs – The Observatory and Planetarium were included in a government tender for electricity supply which was awarded to Airtricity Energy Supply for the Observatory and Power NI for the Planetarium.
- 5.6.5. Complaints and Positive Comments – There has been one complaint since the last meeting of the Management Committee that was dealt with through an e-mail response from the Director.
- 5.6.6. Freedom of Information (FoI) – There have been no FoI requests since the last meeting of the Management Committee. The Director emphasized that in addition to formal FOI requests the Observatory is subject to many information requests about material held in its library and archives and on its websites, especially concerning the meteorological records, and to a continuous stream of requests concerning the history and heritage of astronomy in Armagh and about recent advances in this rapidly developing subject. Most of these information requests are answered by individual astronomers in the course of their daily work, or passed on to others with the necessary specialized knowledge or authority to provide a prompt response.
- 5.6.7. Charity Commission Northern Ireland – There has been no movement on this issue since the last meeting of the Management Committee.
- 5.6.8. Changes in Employment and Related Legislation – New duties have fallen on employers with effect from 2012 April 1 to enrol all workers into the pension scheme. Staff may still opt out from the final-salary pension scheme, if that is their wish; and in practice, apart from additional administration associated with the new legislation, the changes in pension arrangements are relatively few. One issue remains unresolved, namely whether PhD students count as ‘eligible jobholders’, and this question has been escalated by the Administrator to the Pensions Regulator for a ruling.
- 5.6.9. DCAL Strategic Partnership Forum – A meeting of the DCAL Strategic Partnership Forum which took place on 2012 June 12 in the House of Sport, Malone Road, Belfast, chaired by the DCAL Permanent Secretary, was attended by the Director of the Planetarium and the Deputy Chair of the Management Committee.
- 5.6.10. Health and Safety – Shane Kelly reported that the Northern Ireland Fire and Rescue Service carried out a further familiarization visit to the Observatory on the afternoon of 2012 February 20, and an additional Fire Safety Audit was completed on 2012 June 6. A comprehensive Fire Risk Assessment was also commissioned in 2012 March through CPD and completed during April. This identified a number of actions that should be carried out to improve fire safety within the building.
- 5.6.11. Administrative Inflation – Within approximately the past ten or twelve years, the day-to-day work of many Observatory staff has grown substantially to accommodate increased responsibilities and a greatly increased workload. During the past several years, however, the pressure of externally imposed bureaucracy has grown enormously. A proxy indicator for the increase in bureaucracy and the time that it inevitably occupies, displacing more important frontline tasks, is the frequency with which members of staff in government departments provide papers for information or request information and other actions, both routine and non-routine, from the Observatory. In 2006 and 2007 the number of such contacts was around 60–70 per year, in 2008 the number more than trebled to approximately 216. In 2009, this figure was exceeded in the first week of October, leading to a new record for such demands of 297; and in 2010 the figure had grown again to 365.
- 5.6.12. Business Plan 2012/2013 – The Observatory’s Business Plan for 2012/2013 was submitted in draft form to DCAL, the Board of Governors, the Management Committee on 2012 May 7. A revised version, dated 2012 June 4 and containing only relatively minor changes, was circulated to the Management Committee in early June. It is understood that the original version of the Business Plan was accepted by DCAL, subject to possible in-year review, and that the same will apply to the current version, although a formal response has yet to be

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received from the Department.

- 5.6.13. Annual Report for Calendar Year 2011 – A draft version of the Annual Report for Calendar Year 2011 and Financial Year 2011/2012 was completed during early 2012 June and circulated to the Management Committee and the Board for information and comment prior to wider circulation in July.
- 5.6.14. Collaboration with Queen’s University Belfast – Following discussion of the matter at the last meeting of the Management Committee and at the last meeting of the Board of Governors, the Director informed the Committee that the matter was still being considered by the University.
- 5.7. Consideration of Observatory Director’s Interim Report
 - 5.7.1. Members approved the Observatory draft Business Plan for 2012/2013.
 - 5.7.2. Members discussed the issue of the delayed MOA with QUB and asked that Professor Bailey (a) continue to request reasons for the proposed increase in fees and (b) explore the possibility of enrolling students in other universities.
 - 5.7.3. Members extensively discussed the increased volume of demands for information from government departments, particularly Governance Support Unit of DCAL, and the risk presented, now to be included in the Observatory risk register at the request of Members, to the Observatory’s ability to recruit and retain staff whose ability to undertake astronomical research and education will be affected by administrative and governance duties. Members asked that the Management Committee and Directors register their concerns with senior management at DCAL that the increasing volume of demands and decreasing levels of materiality is reducing the ability of staff to carry out their core duties and may require additional resources from DCAL to meet these demands.
 - 5.7.4. Members asked that a letter be drafted for the Chairman to send to the Minister for Culture, Arts and Leisure, copied to OFMDFM, that summarises the increase in demands for information and statutory returns and the need to seek additional resources from DCAL to meet these demands.

Dr Mason referred to the following matters in his Planetarium interim report:

- 5.8. Key Performance indicators for 2011/2012 and 2012/2013
 - 5.8.1. 2011/2012 – The results data for 2011/2012 were presented in a tabular form to members. The information had been modified to reflect the new data included in the Quarterly Assurance Statements submitted to DCAL to report on progress and documenting meeting or missing the targets. The Director reported at the March 2012 meeting that visitor numbers were holding up, and if that trend continued, it was predicted that Planetarium would meet its target for the year 2011/2012. This is against a record of problems with travel and a general lack of money in schools and the educational system.
 - 5.8.2. Targets for 2012/2013 now included absence rates of 6.5 days per employee per year and percentage of invoices paid within the ten-day target period.
- 5.9. Planetarium Public and School Events from April 1 – June 15 2012
 - 5.9.1. Easter school break 2012 – The Planetarium ran extra activities for children over the Easter break as well as a full schedule of Digital Theatre shows. The activities included rocket building, where children and families could launch their own water rockets. The Cosmic Balloons workshop ran each morning in the Planetarium crafting balloon model animals to support the preschool show ‘Little Yellow Star’.
 - 5.9.2. “A night with the Stars” 24 April 2012 – The Planetarium held a Stargazing evening where visitors could watch the Theatre Show ‘Experience the Aurora’ and gain telescope advice from amateur astronomer group the Northern Ireland Amateur Astronomical Society (NIAAS). Despite initial cloudy weather the clouds cleared to allow views of the crescent moon, Mars, Venus and Saturn through a telescope.
 - 5.9.3. Great Balloon Race 5 June 2012 – The Planetarium held the Great Balloon race to celebrate the Olympic torch in Armagh. Four hundred helium filled balloons took to the sky as the torches passed outside the Planetarium. Registration was open on both the Bank

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Holidays for visitors to participate in the Balloon Race. Each balloon had their own unique number on a note attached to the balloons. Each balloon number corresponded to a name on the list. The note also included an email address for the finder to contact the Planetarium with code and location of the found balloon. The balloon that has travelled the greatest distance will win a prize for the race participant as well as the finder of balloon. The closing date is the 30 June 2012.

- 5.9.4. Creativity Month – These events were funded by the DCAL Creative Industries division. Planetarium staff ran another Cosmic Cuilcagh event at the Marble Arch Cave site in Fermanagh at the end of February. Amateur colleagues from the Irish Amateur Astronomy Association, and Ulster Museum geologist Dr Mike Simms joined the Director in making presentations about meteorites and fossils from Fermanagh. One of the ESO staff ran portable planetarium shows and almost 1,000 people attended.
 - 5.9.5. “Opening doors to the Future” 27 April 2012 – The Planetarium hosted the NIEA conference “Opening doors to the Future”. The event looked at ways to conserve old buildings and give them a new purpose. As well as the conference, prizewinners from a schools competition attended the Planetarium with their winning entries and displayed them in our exhibition area. Schools also took part in a rocket building workshop as well as having a tour of the Planetarium. Special guest HRH Prince of Wales attended the conference.
 - 5.9.6. UK Rocket challenge finals – Four NI schools participated in this event out of a total of 20 schools from all across the UK. This demonstrates the commitment to STEM by local schools who, from our small local population provided 20% of the entries. The Planetarium sponsored the team from Our Lady’s Grammar from Newry, we previously had been involved with the team from Victoria College, and the remaining two teams were from Longstone Special School. Although none of them won the event, it was a considerable achievement to reach the hotly contested finals.
- 5.10. Governance Issues
- 5.10.1. Revised Quarterly Assurance Statement – (a) DCAL convened a meeting on 12 June 2012 of all chairs and CEOs of the arms’ length bodies (ALBs) who operate under their sponsorship. The issue that raised most concern was a new DCAL edict that all chairs also should sign off on the Quality Assurance Statements. It was pointed out to them by everyone who spoke that this was neither necessary or desirable, (b) DCAL agreed to review their papers and return to this issue, but it may be worth waiting for the other advice and legal opinion which other CEOs said that they would seek. The point was also made that this is not a requirement in any other boards that the CEOs serve on both in NI and in England. This may be an overzealous reaction, which could be creating a problem, with possible legal ramifications and (c) It was also pointed out that all of the bodies were comprehensively audited, in our case by internal, external, NIAO opinion, and DCAL’s own test drilling, not to mention the COPEs and the CPD procurement rules, and the business cases which were essential for spending public funding. It may be the case, as mentioned by both Directors at ARMC that the “administrative tail is now so big that the poor dog has no chance of delivering the services which are needed”. The prime function of the Planetarium is education, not administration, and it is noted that the DFP always seeks proportionate work to justify expenditure. This is now disproportionate.
 - 5.10.2. Risk Register – The current Planetarium Risk Register was, after discussion at ARMC, revised to include ability to recruit and retain staff whose ability to undertake astronomical education would be affected by administrative and governance duties.
 - 5.10.3. Equal Pay awards – NIPSA intends to present a case on behalf of its members equal pay award claim, in line with what has happened with the NICS staff. There has been a recent NIPSA letter mentioning that the Finance and Personnel Committee of the NI Assembly was in favour of making this award, and that money allocated would be returned to the Treasury if it was not spent this year.
 - 5.10.4. Health and Safety – (a) The Health and Safety officer at the Planetarium carries out weekly fire drills. All records are filed and kept at the front desk. All fire points, alarms and smoke

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detectors are in full working order, (b) Since his last report there has been one accident in the Planetarium. This accident occurred in the theatre. As one of our visitors tried to exit the theatre he squeezed himself between the back row and the back wall, on the back wall a small ledge sticks out from the wall where the old projection system used to be, the visitor caught his back on this ledge and sustained a small cut. A post accident investigation found that the person who sustained the accident should not have been trying to exit in the way that they did, if they had have paid attention to our procedures this accident would have been prevented, (c) Heating Issues – On the 24 May it was reported that the air temperature in the theatre was well above normal. A full report was carried out on this issue and the report is on file with the Health and Safety officer and the Director. Two issues have arisen from this problem and they are firstly that the Maintenance helpdesk does not seem to be able to send down the relevant engineer on the first time of asking and secondly that whenever the Planetarium was refurbished not a lot of thought went into the location of the chiller unit and the problems that could arise from placing the chiller in an enclosed space. This matter is now being dealt with and a new chiller enclosure ventilation system will be installed soon and (d) A large patch of damp has appeared in the exhibition area near a fire exit at the bottom of stairwell B; this was reported and has been checked out by HJ Martin. The damp has appeared due to rainwater collecting on the walkway above the exit and seeping into the wall. HJ Martin is in the process of installing a gulley to redirect the water from the walkway down into an adjacent drain. This work has been completed and once the plaster has dried out the plasterwork will be painted. Once this is completed this should prevent more damp patches appearing on the wall. Flat sheets of steel laid over the original bridge design that was open and which would have allowed the rain to fall straight through caused the damp.

- 5.10.5. Staffing Matters – (a) An Employment Tribunal case filed against the Board of Governors by a former employee for unfair dismissal was heard in January and February 2012. The Tribunal decision was that the employee had not been unfairly dismissed. No appeals were lodged, so this matter is now over. A further outcome is that we will need to review our policies and procedures relating to how we run disciplinary hearings, including who carries out investigations, and who chairs any the disciplinary and appeal hearings, (b) Education Support Officers – All five ESOs are now fully trained and the feedback from the public is excellent. Staff are being identified as a great asset, which is a very pleasing outcome, and demonstrates that they have absorbed what they were told during their training.
- 5.10.6. Digistar 4 Theatre Backups – The Digistar 4 double backup system is now installed and is fully operational.
- 5.11. New shows and workshops
 - 5.11.1. Theatre Motion Sensors – a new development is planned for the theatre involving a motion sensor that we hope may enable us to enhance the visitor experience, particularly for special needs groups. This has been tested, it works well, and staff are trying to find time to write a show to exploit it.
 - 5.11.2. New Shows – Staff have completed two new shows made in house by Ms Thompson. The first is a unique home grown family show, and Ms Thompson created the concept and graphic design, scripted the show, chosen and sourced the music, made the computer graphics and special effects and programmed the Digistar 4. She also maintains the projectors' critical alignment. The Director wrote the second script and Ms Thompson has programmed it into the D4. It is designed for a six to ten year old audience. Both shows relate to basic astronomy.
- 5.12. New iPad 3 Systems
 - 5.12.1. Installation of new iPad wireless information system – The planned installation of the new iPad information system is well under way and the first machines will be in place as soon as the stands arrive. We have a 4 machine cluster for nursery age children ready to be launched next week, plus a second subset of machines which will have a number of apps relating to astronomy and space exploration topics. The others will follow as soon as we have the specialist mounts delivered. The reason for choosing the iPads as the preferred

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medium of communication is that such a network is very easily updated through the central server, and that the greater flexibility of the tablets will enable us to provide frequent factual updates and also to quickly react to breaking news stories and astronomical “topics of the day”. This is an extension of the flexibility that we already have in the Digistar 4 theatre system.

- 5.12.2. A further rationale for this solution is that tablet computers are the cutting edge technology of the moment, and we must keep abreast of these developments. These are not the future, they are the machines of the present. The iPads are still the best of the tablets, and there is a continuous rolling software update that is easy to roll out to all of the machines on the net. Looking to the future, they also offer an inexpensive support mechanism that could help relieve some of the pressure on the Director and staff.
 - 5.12.3. Our system will be controlled by a MacMini server with data being pushed to the machines via a new extension of our existing wireless network. The machines for public use will also be locked down so that they only deliver what we want the visitors to experience. We are aiming to be ahead of the pack with this development, and keeping up with the big fish in the science museum world. One of the most powerful aspects of this new system is that the third generation iPads deliver very high quality images. We actually delayed the acceptance of the equipment when we learned that the new machines were to be launched at the same time as we were due to take delivery of the iPad 2 predecessors. We intend to expand our network by purchasing more machines this year: this will provide a relatively cheap and very dramatic makeover of our rather old display spaces. The second batch will be mounted on our stainless steel safety rails along the mezzanine walkway and in places where the public gather to look at exhibits from above.
- 5.13. Consideration of Planetarium Director’s Interim Report
- 5.13.1. Members again discussed the increased volume of demands for information from government departments, particularly Governance Support Unit of DCAL, and the risk presented, now included in the Planetarium risk register, to the Planetarium’s ability to recruit and retain staff whose ability to undertake astronomical education will be affected by administrative and governance duties.
 - 5.13.2. Members also felt that there was evidence that some current job descriptions in the Planetarium did not reflect the scope and responsibility of work of staff and the reputational and professional risks regularly undertaken by staff in balancing resources to deal with statutory and non-statutory requirements and demands.
 - 5.13.3. Members expressed concern about the new DCAL requirement to have all Quarterly Assurance Statements (QAS) approved by ARMC and Management Committee and signed off by the Chairman of the Management Committee and asked that Directors raise this concern with DCAL senior staff.

6. REPORT OF THE CHAIRMAN OF THE AUDIT AND RISK MANAGEMENT COMMITTEE

- 6.1. Equal Pay Lump Sum Compensatory Payment – NIPSA has advised its members that the matter listed for hearing at County Court in January 2012 has been further postponed to September 2012. Contingent liabilities remain included in the accounts and these have been increased for pay awards by £3k to £77k.
- 6.2. Subsidised Pension Contributions – A response is awaited from DFP and DCAL on the subsidised pension contributions issue. The corporation, until 31 March 2011, paid a portion of some employees’ contributions that may have HMRC implications and a potential breach of the NILGOSC pension scheme regulations. These employees now pay the full employee pension contribution and are paid an off-scale amount to compensate for their additional pension costs. Members were advised that the payment related to three members of Planetarium staff and the amount of tax due, if deemed taxable by HMRC, would be a liability of the Planetarium and would be less than £1k.
- 6.3. Employee Dismissal – Dr Mason advised members that the claim for unfair dismissal by a Planetarium employee against the Governors of Armagh Observatory and Planetarium was held

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over four days in January and February 2012 at an Industrial Tribunal in Belfast. The Industrial Tribunal ruled on 5 April 2012 that the employee had been fairly dismissed. The employee had the right to appeal to either the Industrial Tribunal for a review of their decision or to the Court of Appeal on a point of law within prescribed timeframes. No notification of appeal has been lodged within the prescribed timeframes.

Dr Mason also advised members that the Industrial Tribunal did have reservations about him being both the investigator, under the Fraud Prevention Policy and, under Disciplinary Procedure, chairing the Disciplinary Authority. This is not accepted industrial practice, and the Industrial Tribunal did not accept the argument that the Board of Governors of Armagh Observatory and Planetarium was too small to separate the investigation from the disciplinary by not having Dr Mason involved in both stages of the process. As it is law that a fair appeal can cure defects at a first stage of the disciplinary procedure, the Industrial Tribunal viewed that the appeal process as operated by Professor Hibbert amply fulfilled this requirement and effectually cured the procedural defect in Dr Mason being both the investigator and chair of the Disciplinary Authority that caused concern to the tribunal.

ARMC members asked that, in consultation with DCAL, the Disciplinary Procedure be reviewed by Directors and Joint Administrator to ensure that the investigator and the chair of the Disciplinary Authority is not the same individual.

- 6.6. Complaint – Internal Communication between Directors and Staff – Professor Hibbert, as Deputy Chairman of the Management Committee, advised members that the Joint Administrator had produced a draft questionnaire on the quality of internal communications and had circulated this to Management Committee members for comment. The responses received (three) felt that a more informal approach was needed to address the problem. Professor Hibbert felt that the best way forward was for him, and possibly another Management Committee member, to meet the staff of the Observatory and Planetarium but to do so he would need clarification from the Management Committee member who raised the complaint on the extent of the problem and its location. Professor Hibbert would also contact Dr Byrne, former Deputy Chairman of the Management Committee, to seek clarification on the matter.
- 6.7. External Audit by Miscampbell and Co – Conflicts of Interest – No conflicts of interest have been declared.
- 6.8. Extension of Internal Audit – The contract to provide Internal Audit services to the corporation, publicly tendered in 2009 through SELB, Centre of Procurement Excellence (COPE), has been extended for a further year to 31 March 2013 with the approval of the Management Committee. The Joint Administrator is, with SELB COPE, exploring the feasibility of a further extension to five years, in line with NIAO contracts for external audit provision.
- 6.9. Fraud Awareness Training – Observatory and Planetarium staff attended Fraud Awareness Training. This was delivered by DCAL's Fraud Prevention providers, the Department of Agriculture and Rural Development (DARD). The training covered the implications of the Bribery Act 2011.
- 6.10. Bribery Act 2011 – Mr Copeland, in association with ASM Accountants, has produced a one-page summary for staff and stakeholders on the implications of the Bribery Act.
- 6.11. Outstanding Internal Audit Recommendations
 - Equal Pay Lump Sum Compensatory Payment – see 6.1 above;
 - Planetarium Fixed Asset Register – location and tagging of fixed assets and recording of assets in fixed asset register to be completed by September 2012;
 - Planetarium Information Technology Systems – Documentation of systems and review procedures to be completed by September 2012; and
 - Pension payments on behalf of staff – see 6.2 above.

Members asked that outstanding audit recommendations should include a note on the responsible officer and target date for completion.

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- 6.11. DCAL External Quality Assessment of Internal Audit Arrangements – HM Treasury guidance required a review by the sponsoring Department, DCAL, of the quality of the internal audit service. DCAL staff met Chairman of ARMC, Dr Byrne, Directors and Joint Administrator and ASM Accountants and reported on the review in late March 2012.
- The DCAL assessment proposed a 14-point action plan for improving internal audit arrangements and these have or are being acted on by corporation staff or Management Committee members.
- 6.12. Risk Registers and Quarterly Assurance Statements
- 6.12.1. The following papers submitted to the ARMC meeting of ARMC are included in the interim report of the Directors:
- Observatory – Risk Register;
 - Observatory – Quarterly Assurance Statement;
 - Planetarium – Risk Register; and
 - Planetarium – Quarterly Assurance Statement.
- 6.12.2. Members discussed at length the risk identified in the Observatory Director’s report of the increasing level of time spent by both Directors in dealing with recurrent and ad hoc requests for information from NI Government and Assembly demands. Both Directors articulated concerns that the significant increase in demands from NI Government and Assembly has deflected their resources from core front line functions and may affect the ability of attracting high calibre replacements to the Observatory and Planetarium Directors posts.
- 6.12.3. ARMC members asked that both Directors include recruitment and retention risks, including shortage or unavailability of key staff, in their next Risk Registers and assess the impact of the significant increase in demands from NI Government and Assembly on attracting high calibre replacements to the Observatory and Planetarium Directors posts.
- 6.12.4. ARMC members also asked that Directors highlight any new risk or material change in on-going risks in future reports and a process for escalating red residual risks to ARMC and Management Committee.
- 6.13. Matters for Report and Review
- 6.13.1. Members of ARMC also reviewed the following:
- Potential Conflicts of Interest – None in the period under review;
 - Single Tender Actions above £5k – three items were reported:
 - Observatory – restoration of maps, books and archives from Sean Madden (£8,205)
 - Planetarium - Lamps for Digistar 4 projection system from Evans and Sutherland (£11,125)
 - Planetarium - Replacement seating for Digistar Theatre from Figueras (£16,998)
 - Gifts and Hospitality Registers;
 - Directors’ expenses; and
 - Fraud issues – none reported in financial year 2011/2012 for the Observatory. One attempted fraud in 2011/2012 for the Planetarium was reported to ARMC and DCAL. This related to attempted fraudulent expenditure on the Planetarium Director’s credit card by unknown individuals but at no cost to the Planetarium.
- 6.13.2. The DCAL observer asked that the Internal Audit review of gifts and hospitality should check that the hospitality provided is within the terms of the relevant policy and reasonable in terms of price.

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6.14. Confidential Discussion with Auditors – The Accounting Officers and the Joint Administrator withdrew from the ARMC meeting and ARMC members held a private meeting with the internal and external auditors.

7. ANNUAL REPORT OF THE AUDIT AND RISK MANAGEMENT COMMITTEE FOR THE YEAR ENDED 31 MARCH 2012

7.1. The DCAL assessment of internal audit provision proposed a 14-point action plan for improving internal audit arrangements. One of those recommendations was an Annual Report of ARMC to Management Committee that was included for members' consideration.

8. ANNUAL INTERNAL AUDIT ASSURANCE REPORT FOR 2011-2012

8.1. ARMC reviewed the ASM Accountants' Annual Internal Audit Assurance Report for 2011/2012 on the following business areas in both the Observatory and Planetarium:

Area	Date of Report	Assurance Rating	Number of Recommendations
Payroll, pensions and travel expenses	January 2012	Satisfactory	6
Purchasing and procurement	January 2012	Satisfactory	3
Bank and cash	January 2012	Substantial	1
Financial Management Information	January 2012	Substantial	1

In addition in 2011/2012 ASM Accountants undertook follow up reviews of recommendations made during 2010/2011 and a review of DCAL requirements for the corporation.

8.2. ASM Accountants audit work is delivered in accordance with the Government Internal Audit Standards. ASM accountants provided a satisfactory level of assurance in relation to the effective and efficient achievement of the Observatory and Planetarium's objectives. A satisfactory level of assurance indicates that there is some risk that corporation objectives may not be fully achieved and, as a consequence, some improvements are required to enhance the adequacy and/or effectiveness of risk management, control and governance. For those areas where there is a satisfactory internal assurance, Directors have proposed a timeframe to implement the Internal Auditor's recommendations.

8.3 The DCAL observer advised that some matters falling within the scope and responsibility of DCAL, e.g. a revision of the Management Statement and Financial Memorandum (MSFM), might be delayed because of resourcing issues within DCAL.

9. ANNUAL REPORT AND ACCOUNTS FOR YEAR ENDED 31 MARCH 2012

9.1. The draft Annual Report and Accounts for the year ended 31 March 2012 were included in full for members' approval. ARMC members reviewed the draft Annual Report and Accounts for the year ended 31 March 2012 and questioned the Accounting Officers and Joint Administrator on variances from last year's reports and accounts. Mr Copeland advised ARMC members that the monthly resource consumption returns to DCAL predicted a break-even position at 31 March 2012. The actual out-turn before pension adjustments were surpluses of £429 and £951 for the Observatory and Planetarium respectively.

9.2. Adjustments for the Observatory and Planetarium's share of the overall deficit in the NILGOSC pension scheme, as advised by the NILGOSC actuary, of £212,862 and £253,995 respectively created an overall deficit for the corporation of £465,477.

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- 9.3. Land and Property Services, an agency of DFP, undertook a quinquennial revaluation of Observatory and Planetarium land and buildings at 31 March 2012. Land and buildings decreased in value in the Observatory by £656,028 and in the Planetarium by £792,329 from the net book value on the balance sheet at 1 April 2011.
- 9.4. Members reviewed at length the factors influencing future funding requirements for the corporation, the ability of the Observatory and Planetarium to obtain a balanced out-turn for 2012-2013 in light of dependencies on non DCAL income to meet expected expenditure. Both Accounting Officers advised that their Risk Registers recognised the risk of the impact of external income in their 2012-2013 Business Plans to obtain financial balance and if necessary, in association with DCAL, to obtain additional funding and/or implement a savings plan to breakeven in 2012-2013.
- 9.5. Professor Ray proposed that members approve the Annual Report and Accounts for the year ended 31 March 2012. This proposal was seconded by Mrs Wilson and approved by members.

10. DRAFT EXTERNAL AUDIT REPORT FOR 2011-2012

- 10.1. The draft External Audit Report for the year ended 31 March 2012 and Letters of Representation from the Accounting Officers were included in full for members' approval. ARMC members also reviewed the Accounting Officers' Letters of Representation and noted that there were some post balance sheet changes for pensions and land and buildings revaluation adjustments after 16 April 2012, all of which had a neutral effect on the financial statements.
- 10.2. Miscampbell and Co advised ARMC members that they would anticipate recommending to the Comptroller and Audit General (C&AG) that he certifies the 2011-2012 financial statements with an unqualified audit opinion, without modification.

11. INTERNAL AUDIT STRATEGY FOR 2012-2013

- 11.1. The draft Internal Audit strategy for 2012-2013 was included for members' approval. ASM Accountants presented the draft Internal Audit plan for 2012/2013 for consideration by ARMC members as an addendum to the existing audit strategy for 2009-2010 to 2011-2012. DCAL has requested that the plan should include reviews of fraud management (including the requirements of the Bribery Act 2010), procurement and Health and Safety. Additionally at the October 2011 ARMC meeting, members asked that Internal Audit review the Potential Conflict of Interest and Gifts and Hospitality policies.
- 11.2. ASM proposed, that in light of the history of strong controls within both the Observatory and Planetarium in respect of the key financial systems, ASM would focus resources in 2012/2013 on corporate governance and health and safety. ARMC members agreed with this focus and recommend to Management Committee that members approve the draft Internal Audit plan as detailed in the ARMC papers
- 11.3. Mrs Wilson proposed that members approve the Internal Audit Strategy for 2012-2013. This proposal was seconded by Professor Ray and approved by members.

12. PRESENTATION OF RESEARCH

- 12.1. Dr Apostolos Christou delivered a short presentation entitled "Attendants of the Planets". After questions, the Chairman thanked Dr Christou for his presentation, which members had found very valuable.

13. ANY OTHER BUSINESS

- 13.1. NI Environment Agency – Protocol for the Care of the Government Historic Estate – Professor Bailey advised members that the Observatory was required to (a) provide an annual Heritage Asset Report to comply with the NI Environment Agency's Protocol for the Care of Government Historic Estate and (b) nominate a Heritage Officer with responsibility for ensuring that policies and

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procedures are in place to protect the Observatory's heritage assets. It was agreed that Professor Bailey should be the Observatory's Heritage Officer.

- 13.2. Asset Management Plan – Mr Copeland advised members that the Observatory and Planetarium was required by DCAL to devise and maintain an Asset Management Plan to ensure the effective and efficient management of assets. A further requirement will be to provide quarterly returns to DCAL, including a Property Dashboard report. It was agreed that Mr Copeland should be the Asset Management Champion.
- 13.3. Observatory Director Absence – Professor Bailey advised members of the timing of his potential absence on sick leave, raising the possible need to appoint an Acting Accounting Officer, if necessary, for the Observatory. The Chairman advised that the Management Committee would consider the Acting Accounting Officer issue in closed session.

The meeting ended at 2.30 pm.

14. DATE OF NEXT MEETING

The next meeting will be on Thursday 22 November 2012 at 2.00 pm in the Boardroom, Armagh Observatory, followed by dinner and the Robinson Lecture in Armagh City Hotel.

Signed as a true record of the Meeting

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Mrs P E Wilson

Dated: 22 November 2012