

Armagh Observatory and Planetarium

Business Plan 2015/16

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1. Minister's Foreword



DCAL is committed to harnessing culture, arts and leisure to promote equality and tackle poverty and social exclusion. Over the course of the last year DCAL and its arm's length bodies have made good progress transforming delivery so that as much public resource as possible is invested in these key priority areas in a way which will bring about lasting and meaningful change to as many people as possible, but in particular to those who are most disadvantaged.

All DCAL business areas and arm's length bodies have been busy delivering an exciting range of culture, arts and leisure projects and programmes which have benefitted all sections of society and have had considerable impact in promoting equality and tackling poverty and social exclusion, as well as contributing to the economy. Over the coming year, DCAL will be looking for further opportunities to collaborate with others in providing imaginative culture, arts and leisure interventions as an integral part of wider Executive initiatives.

We are having to contend with a difficult budget as a result of the cuts imposed by the British Government. I am not at all comfortable with this budget. All service areas across DCAL and its arm's length bodies have been affected by budget reductions as a direct result of the year on year erosion of the Block grant by a Tory led British Government.

Across the DCAL Family we have had to manage a budget reduction of £10 million or 10% on the opening allocation for 2014-15. This budget does not allow me to deliver the level of services and resources that I want, but despite these financial constraints I will continue work to the best of my ability to protect frontline services and target resources to those most in need.

I was able to reduce the proposed cut in allocations from 10% to 8.0% to help meet additional financial pressures, and I will continue to argue for additional resources. But I simply do not have the resources to do all that I would want to do. Some people view culture, arts and leisure as a luxury; however I see these as a basic right for all.

I am confident each of the organisations funded by the Department is doing all it can to minimise the impact of any budget reductions on jobs and frontline services.

In the year ahead, all of the DCAL Family will continue to offer their excellent services to their many thousands of users in addition to running a varied range of programmes. In all of our activities, promoting equality, and tackling poverty and social exclusion will remain our central objective.

Since taking office, I have worked tirelessly to ensure that culture, arts and Leisure is used to promote equality, tackle poverty and enhance social inclusion. Despite the pressures, I will continue to do so.

Carál Ní Chuilín,
Minister of Culture, Arts & Leisure

Réamhrá



Tá RCEF tiomanta do leas a bhaint as cultúr, na healaíona agus an fhóillíocht leis an chomhionannas a chur chun cinn agus dul i ngleic le bochtaineacht agus an eisiámh sóisialta. I gcaitheamh na bliana seo caite, rinne RCEF agus a cuid foras neamhthuilleamaíoch dul chun cinn maith ó thaobh seirbhísí a sholáthar sa dóigh is go n-infheistear a oiread acmhainní poiblí agus is féidir sna croí-réimsí seo le hathrú marthanach fóinteach a chur i gcrích a rachaidh chun sochair d'oiread daoine agus is féidir, go háirithe iad siúd is mó atá faoi mhíbhuntáiste.

Bhí gach brainse gnó de chuid an RCEF, agus a cuid foras neamhthuilleamaíoch uilig, gnóthach agus iad ag soláthar raon spreagúil tionscadal agus clár i réimsí an chultúir, na n-ealaíon agus na fóillíochta, obair a raibh tionchar nár bheag aici ar iarrachtaí leis an chomhionannas a chur chun cinn agus dul i ngleic leis an bhochtaineacht agus leis an eisiámh sóisialta, gan trácht ar a leas geilleagrach. I gcaitheamh na bliana seo chugainn beidh an RCEF ag lorg tuilleadh deiseanna le bheith ag obair i bpáirt le dreamanna eile le tabhairt faoi bhearta cruthaitheacha i réimsí an chultúir, na n-ealaíon agus na fóillíochta mar dhlúthchuid de thionscnaimh an Fheidhmeannais.

Tá againn le déileáil le buiséad deacair i mbliana, mar gheall ar na ciorruithe atá á gcur i bhfeidhm ag Rialtas na Breataine. Is cúis inní domsa an buiséad a bheith mar atá. Tá gach réimse seirbhíse de chuid RCEF agus a cuid foras neamhthuilleamaíoch thíos le ciorruithe buiséid a tháinig de thoradh díreach ar chreimeadh an Bhlocdheontais ag Rialtas na Breataine, rialtas a bhfuil na Tóraithe i gceannas air.

Bhí ar RCEF ciorrú buiséid de luach £10 milliún a bhainistiú, suim arb ionann agus 10% den leithdháileadh tosaigh don bhliain 2014-15. Coisceann an buiséad sin orm an leibhéal seirbhíse agus na hacmhainní is mian liom a sholáthar ach, in ainneoin na srianta airgeadais seo, leanfaidh mé orm ag obair ar feadh mo chumais, féachaint le seirbhísí líne tosaigh a chosaint agus acmhainní a chur i dtreo na ndaoine is mó a bhfuil siad de dhíth orthu. D'éirigh liom an ciorrú 10% a bhí beartaithe ar leithdháiltí a laghdú go 8.0% le maolú ar an bhrú airgeadais, agus leanfaidh mé orm ag argóint ar son tuilleadh acmhainní. Ach is é fírinne an scéil nach bhfuil mo sháith hacmhainní agam leis an méid is mian liom a dhéanamh. Dar le daoine áirithe gur pléisiúr neamhriachtanach atá i gcultúr, sna healaíona agus san fhóillíocht; dar liomsa go bhfuil buncheart ag gach uile dhuine orthu.

Tá mé sásta go bhfuil gach ceann de na heagraíochtaí atá á maoiniú ag Roinn ag déanamh a ndícheall le tionchar na ciorruithe buiséid ar phoist agus ar sheirbhísí líne tosaigh a mhaolú.

Sa bhliain amach romhainn, leanfaidh gach dream i Meitheal an RCEF de bheith ag tairiscint seirbhísí den scoth do na mílte úsáideoir agus cláir ilchineálacha a reáchtáil. Beidh chur chun cinn an chomhionannais, agus dul i ngleic leis an bhochtaineacht agus leis an eisiámh sóisialta, ina gcroíchuspóirí againn inár gcuid gníomhaíochtaí uilig.

Ó ceapadh i m'Aire mé, shaothraigh mé gan staonadh lena chinntiú go mbainfear leas as cultúr, na healaíona agus cúrsaí fóillíochta leis an chomhionannas a chur chun cinn, le dul i

ngleic leis an bhochtaineacht agus leis an chuimsiú shóisialta a chothú. Leanfaidh mé orm ar an dóigh sin, in ainneoin gach brú.

Carál Ní Chuilín

An tAire Cultúir, Ealaíon & Fóillíochta

2. Welcome and Introduction

- 2.1. The Armagh Observatory is the oldest scientific institution in Northern Ireland and the longest continuously operating astronomical research institute in the UK and Ireland.
- 2.2. The cultural and heritage importance of Armagh Observatory and Planetarium is significant, and almost as important as our scientific credentials. It was founded in the late 18th Century, through the 1791 Act, passed by the Irish Parliament for *“settling and preserving a Public Observatory and Museum in the City of Armagh for ever”*.
- 2.3. The addition of the Planetarium on the same site in 1968 has greatly enhanced the organisation’s public face and outreach activities. The fact that we have an active Observatory with a vibrant research, education and public outreach programme strengthens our status nationally and internationally.

Who We Are

- 2.4. The Governors of the Armagh Observatory and Planetarium is a statutory corporation that operates under the authority of the Armagh Observatory and Planetarium (Northern Ireland) Order 1995.
- 2.5. This Order requires the Governors to maintain and manage the Armagh Observatory and Planetarium for the purpose of *‘developing the knowledge, appreciation and practice of astronomy and related sciences’*. It permits the Governors to take such other action as they think proper for the purpose of acquiring or disseminating knowledge relating to astronomy and related sciences, and in particular to carry out and assist in the carrying out of research.
- 2.6. The 1995 Order permits the Governors to exercise any of the powers previously provided under the original 1791 Act, which was passed by the Irish Parliament for *“settling and preserving a Public Observatory and Museum in the City of Armagh for ever”*. The Act makes clear that this endowment is not only because of his *“generous inclinations”* but also for the *“encouragement of the Liberal Arts and Sciences”*.

Mission Statement

- 2.7. The Mission of Armagh Observatory and Planetarium 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”.

3. Policy Context

- 3.1. The Northern Ireland Executive has indicated in the draft Budget for 2015/16 that its focus is to support critical public services. The draft Budget for 2015/16 carries forward the five key priorities from the Programme for Government 2011-15:
- Growing a Sustainable Economy and Investing in the Future;
 - Creating Opportunities, Tackling Disadvantage and Improving Health and Wellbeing;
 - Protecting Our People, the Environment and Creating Safer Communities;
 - Building a Strong and Shared Community; and
 - Delivering High Quality and Efficient Public Services.
- 3.2. Rebalancing the economy is an important aspect of the Executive's focus in the longer term, as set out in the Northern Ireland Economic Strategy. Initiatives that have been taken into account in developing this Business Plan are:
- Increase skills in subject areas important to the NI economy such as Science, Technology, Engineering and Mathematics (STEM)¹;
 - Develop and implement a Strategy to reduce economic inactivity through skills, training, incentives and job creation².
- 3.3. The Department of Culture, Arts and Leisure (DCAL) is the sponsoring body of the Armagh Observatory and Planetarium. In support of its vision of *"a confident, creative, informed and vibrant community"*, DCAL has a mission statement *"To promote social and economic equality, and to tackle poverty and social exclusion, through systematically promoting a sustainable economic model and proactively targeting meaningful resources at sectors of greatest inequality, within areas of greatest objective need, in the wider context of effectively developing tangible opportunities and measurable outcomes for securing excellence and equality across culture, arts and leisure and a confident, creative, informed and healthy society in this part of Ireland."*
- 3.4. The Department's key priorities for 2015/16 are *"to promote equality and tackle poverty and social exclusion"* and *"to contribute to the growth of the economy and building a united community"* These priorities draw together the following themes:
- maintaining frontline delivery;
 - Promoting Equality and Tackling Poverty and Social Exclusion;
 - contributing to wider Executive priorities; and
 - considering the challenges and opportunities presented by the Stormont House Agreement.
- 3.5. During the period of this Business Plan and in the years to come, the Armagh Observatory and Planetarium will play its part in addressing these priorities.

¹ <http://www.northernireland.gov.uk/ni-economic-strategy-revised-130312.pdf>, page 11

² <http://www.northernireland.gov.uk/ni-economic-strategy-revised-130312.pdf>, page 14

Promoting Equality and Tackling Poverty and Social Exclusion (PETPSE)

- 3.6. We live in a society where much inequality still exists and where everyone does not have an equal opportunity to develop their talents to the full. The Northern Ireland Executive recognises that actions to address poverty and tackle disadvantage are prerequisites for social progress and is committed, through its draft Budget for 2015/16 to addressing inequality and unfairness and creating conditions that support inclusion and equality of opportunity. Armagh Observatory and Planetarium is committed to providing access to these audiences and will align resources and put structures in place around education, outreach, employability and communications to reach these audiences.

All Ireland Work

- 3.7. The Armagh Observatory and Planetarium has good working relations with cross-border bodies. Its Management Committee has representation from universities in Dublin, Nottingham and Leeds. Its cross-border activity includes, for example, supporting the all-Ireland radio telescope project LOFAR (a capital bid has been submitted for this project); working with the Committees of the Royal Irish Academy; use of Observatory land for the siting of a magnetometer to be connected to the Birr/Dublin Institute for Advanced Studies (DIAS)/ Trinity College Dublin (TCD) network and the first in Northern Ireland; use of the supercomputer FIONN through a collaboration with the DIAS; delivery of lectures at TCD; the supervision of Transition-Year school work-experience students and TCD final-year undergraduate Physics students' projects; visits by undergraduates from TCD; the postgraduate Lindsay Scholarship Programme; and participation in the all-Ireland Astronomy Trail, which covers observatories, visitor centres and astronomical research institutes across the whole island of Ireland.
- 3.8. In addition, the Observatory's meteorological records provide the longest daily climate series from a single site in the UK and Ireland, one of the longest such records in the world. The maintenance and continuation of this unique environmental sciences database provides researchers and policy makers with an important 'ground truth' as to the impact of global climate change on the island of Ireland.

4. Key Performance Indicators – 2015/16

Area		Description	Target
Visitors	1	Total number of visitors to the Planetarium by 31 March 2016	40,000
	2	Percentage of visitors from schools on the Extended Schools Register or with high proportion of Free School Meals by 31 March 2016 (PETPSE)	25% of total
	3	Number of visitors to the Observatory's websites between 1 January - 31 December 2015	18 million hits
	4	Number of visitors to www.armaghplanet.com by 31 March 2016	1 million hits
	5	Number of participants in STEM/STEAM programmes by 31 March 2016	1,600
Outreach	6	Number of participants at outreach events by 31 March 2016	15,000
	7	Number of work placements offered to school children from deprived areas ³ between 1 January - 31 December 2015 (PETPSE)	7
	8	Number of events targeted at areas of deprivation by 31 March 2016 (PETPSE)	6
Research	9	Number of articles published in refereed scientific journal publications between 1 January - 31 December 2015	40
	10	Number of citations in mass media publications between 1 January - 31 December 2015	250
Resources	11	External income as a percentage of total income by 31 March 2016	18%
	12	Self-generated income (through sales and admissions) as a percentage of total income by 31 March 2016	22%
	13	Payments processed within 10 days by 31 March 2016	90%
Organisational Change	14	Implement Stage 1 of the Restructuring Project	31 March 2016
	15	Recruitment of a Chief Executive	31 December 2015

³ A deprived area is denoted by a school a) with 20% or greater entitlement to Free School Meals and/or b) registered on the Extended Schools Programme

5. Strategy and Delivery

Cross-Cutting Themes

- 5.1. The Extended Schools Programme aims to improve levels of educational achievement and the longer term life chances of disadvantaged children and young people by providing the necessary additional support which can enable those children to reach their full potential. The Armagh Observatory and Planetarium will, through our work with schools, focus resource on targeting the schools represented on the Extended Schools Programme or which have a high proportion of children entitled to Free School Meals.
- 5.2. More broadly the Armagh Observatory and Planetarium will harness our resources in ways that meet the needs of people who face the most significant and urgent problems in our society. **The following activities will be delivered:**
- A curriculum based learning programme will be delivered to 250 schools, with direct interventions for schools on the Extended Schools register or with a high proportion of entitlement to Free School Meals (PETPSE);
 - Six outreach events will be delivered across Northern Ireland, targeted at areas with high levels of deprivation (PETPSE);
 - Eighteen work-experience placements will be available within the Observatory, aimed at nurturing the ambitions of future scientists, technologists, engineers and mathematicians. These will be targeted at schools on the Extended Schools register or with a high proportion of children eligible for Free School Meals (PETPSE);
 - Free visits to the Planetarium will be offered to all special schools in Northern Ireland (PETPSE); and
 - Therapeutic work placements will be available to two adults with complex needs aimed at increasing their knowledge, self-confidence and communications skills (PETPSE).

Visitors

- 5.3. The Armagh Observatory and Planetarium will engage with the widest possible audience and will develop specific initiatives to increase awareness in target areas and communities of greatest need. Initiatives will include special events and use of promotional opportunities, installing and promoting a new outdoor exhibit 'aroundNorth' in the Observatory grounds and promoting the Observatory's research through an Artist-in-Residence scheme, and other outreach activities. Engagement with existing visitors will be important to achieve our visitor target, creating word of mouth referrals and reaching those who are visiting friends and relatives living in Northern Ireland.

Key Tasks and Supporting Actions:

- Provide access to the Planetarium for 40,000 visitors. This will be achieved by running specially adapted programmes in the Digital Theatre, special events throughout the year, especially during holiday periods.
- Provide access to the Planetarium for 300 children with special needs. This will be achieved by inviting all special schools in Northern Ireland to have a free visit to the Planetarium. (PETPSE)
- Encourage 80 visits to the Planetarium from schools in the Extended Schools Programme or with a high proportion of Free School Meals. (PETPSE)
- Provide online access to the Observatory's history and heritage as well as to its scientific results in astronomy, meteorology and related sciences, and to facilitate 'virtual' visits to the Observatory, reaching a total of 18 million website hits.
- Provide online access to the Planetarium's resources and latest astronomy news by continuing to promote our blog and Astronotes pages, aiming to achieve 1 million website hits.
- Provide at least 12 events throughout the year aimed at supporting the STEM/STEAM agenda to nurture the ambitions of future scientists, technologists, engineers, artists and mathematicians.
- Deliver a programme of research to track visitor numbers and attitudes to the Planetarium.
- In addition, we will consider the opportunities for AOP to develop its role as a visitor destination, keying into special interest visitors and the general visitor offering of Armagh city and the new Armagh, Banbridge and Craigavon District Council, and highlighting the cultural importance of AOP as a unique scientific institution with an Observatory and Planetarium co-located on the same site.

Outreach – Science in the Community

- 5.4. The Armagh Observatory and Planetarium plays a key role in inspiring young people to value education and pursue careers in Science and Technology. We will provide a fresh range of opportunities for those interested in astronomy and the world we live in. The initiatives will include reaching out to schools from deprived areas to offer seven work-experience placements for children aged 16 years upwards, scheduling specific events in areas of high multiple deprivation and reaching out to 15,000 people who would not find it easy to come to the Planetarium in Armagh. We also make a unique contribution to increasing skills and knowledge of two adults with complex needs.

Key Tasks and Supporting Actions:

- Deliver organised programmes for 15,000 people away from the Planetarium site.

- Deliver seven work-experience placements to school children from deprived areas to encourage them to pursue careers in STEM industries. (PETPSE)
- Deliver six events targeted at areas of high multiple deprivation. (PETPSE)
- Deliver two work-experience placements for adults with complex needs to increase their skills and knowledge. (PETPSE)
- Deliver a STEAM programme in conjunction with other partners e.g. National Museums NI & Libraries NI.

Research

- 5.5. Staff at Armagh Observatory maintain a high level of research activity. Through their discoveries and the execution of world leading research, the Observatory's staff make a major contribution to promoting the City of Armagh and Northern Ireland, nationally and internationally.

Key Tasks and Supporting Actions:

- Publish 40 articles in refereed scientific journals.
- Achieve 250 citations in mass-media publications on astronomy and meteorology related topics. These often contain significant educational content; they reflect the Observatory's success in contributing to lifelong learning and wider public understanding of science. The mass media can often reach millions of people simultaneously.
- To cooperate with the independent review of the Observatory's research function. The outcome of the review will provide suggestions for strengthening the Observatory's research work and provide DCAL with an independent assessment of the research work of the organisation.
- To prepare for a new Library, Archives and Historic Scientific Instruments building by engaging with potential partner organisations and funding agencies.

Resources

- 5.6. Armagh Observatory and Planetarium face significant budgetary pressures during this financial year. We will seek to maximise the value of our funding from central government through efficiency and effectiveness and we will continue to develop strategic partnerships that assist collaboration and joint initiatives as well as bids for grant funding and other income from external sources. Armagh Observatory and Planetarium resources will address our statutory commitments and public policy obligations.

Key Tasks and Supporting Actions:

- Achieve income through grants and other income for the Observatory of 18% of total income by 31 March 2016, by maintaining existing projects and by applying for additional funding from external funding bodies. The Observatory will apply to use UK and international facilities located abroad or in space,

which provide significant external support ‘in kind’, for example by obtaining research time on facilities belonging to the European Southern Observatory and the European Space Agency, and will develop bilateral research collaborations with other bodies.

- Achieve self-generated income of 22% of total income from the Planetarium by 31 March 2016.
- Achieve 90% compliance with the NI Executive’s ten-day prompt payment target.
- Further develop best practice in governance and accountability:
 - Providing bi-annual Assurance Statements in line with DCAL guidelines
 - Delivering Annual Report and Accounts in line with statutory requirements
 - Providing End Year Governance and Financial Returns
 - Implementing procurement guidelines
 - Implementing audit recommendations against agreed target dates
 - Providing induction training to new Management Committee members
 - Promoting equality and best employment practice.

Organisational Change

- 5.7. Following the completion of the Review of the Organisation and Management of Armagh Observatory and Planetarium, the Board of Governors plans to make changes to the governance arrangements and senior management structure during 2015/16.

Key Tasks and Supporting Actions:

- Secure additional resources to assist with the development of a project plan for the implementation of the restructuring exercise.
- Develop a business case to explain the proposed governance arrangements, organisational structure and funding requirements for the Armagh Observatory and Planetarium.
- Begin to implement the new arrangements, subject to the necessary legislative and departmental approvals, and funding being in place. Implementation of Stage 1 will be completed by 31 March 2016.
- Recruit a Chief Executive by 31 December 2015.
- Continued engagement with key stakeholders.

Planned Events During 2015/16

5.8. The following events are planned throughout 2015/16.

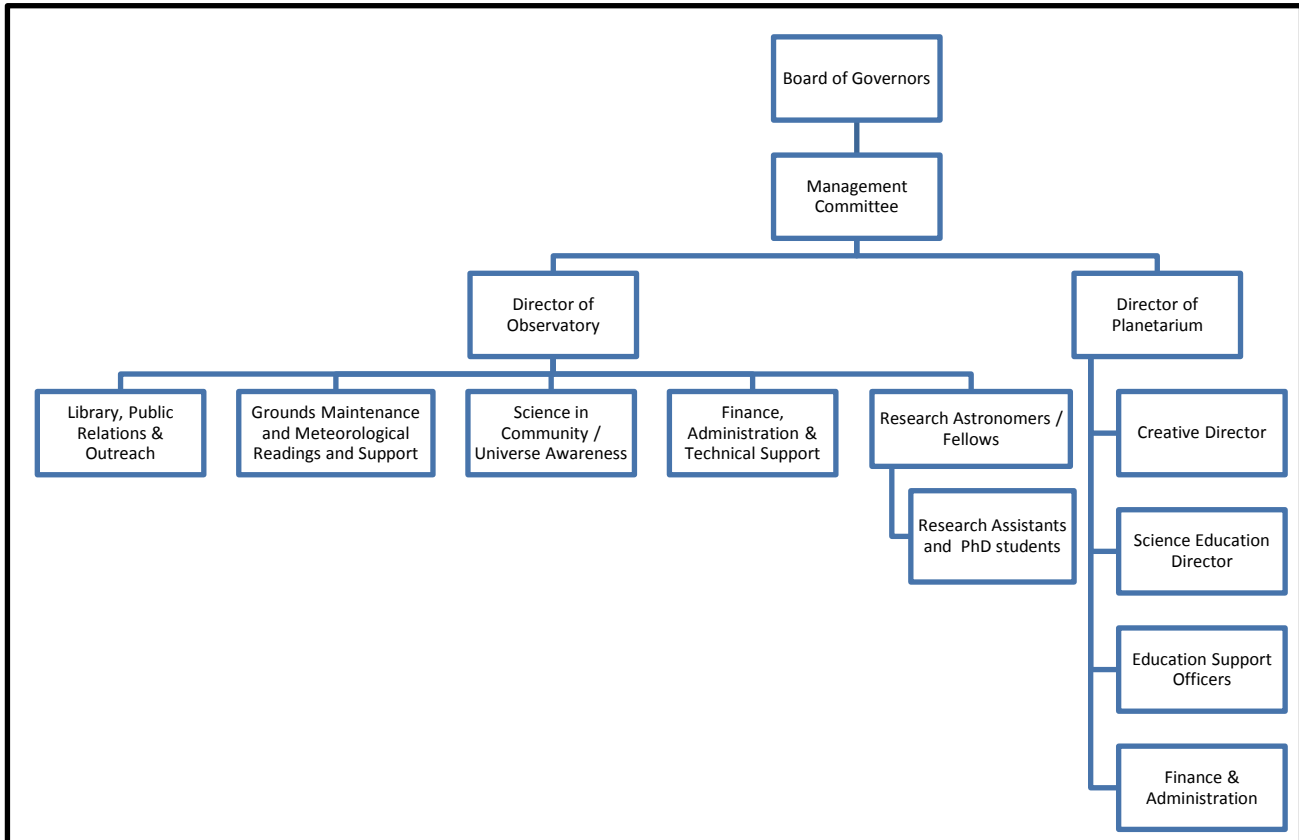
July – August 2015	Summer Programme of special weekend events at Planetarium
13 September 2015	European Heritage Open Day – Special events at the Planetarium
November 2015	Georgian Day – Tours of Observatory building, telescope domes and grounds offered to members of the public
December 2015	Programme of evening open nights at the Planetarium for Christmas
January 2016	Participation in BT Young Scientist of the Year event, RDS Dublin
17 March 2016	Participation in 2016 St Patrick’s Day Events: Tours of Observatory building, telescope domes and grounds offered to members of the public

6. Governance

- 6.1. The current governance arrangements include the Board of Governors and a Management Committee, with membership as described below. These arrangements will be replaced with a new governance structure, if the implementation of the restructuring project takes place during 2015/16.
- 6.2. Membership of the Board of Governors of the Armagh Observatory and Planetarium consists of:
- the Church of Ireland Archbishop of Armagh (Chair);
 - the Dean of the Church of Ireland Cathedral of Armagh;
 - the other members of the Chapter of the Church of Ireland Cathedral of Armagh;
 - one DCAL nominee;
 - one Queen's University Belfast (QUB) nominee; and
 - up to three additional members nominated by the Board of Governors.
- 6.3. The Board has established a Management Committee to provide specialist advice and expertise relating to Scientific Research and Education, and to fulfil certain duties of governance oversight and challenge. The Management Committee comprises:
- the Church of Ireland Archbishop of Armagh (Chair);
 - three nominees from the Board of Governors;
 - six nominees from the Department of Culture, Arts and Leisure;
 - one nominee of the Queen's University Belfast;
 - one nominee from the Science and Technology Facilities Council (STFC);
 - one nominee from the Dublin Institute for Advanced Studies (DIAS); and
 - up to three additional members co-opted by the Board of Governors.
- 6.4. The Director of the Observatory and the Director of the Planetarium are the Accounting Officer for their respective divisions of the Corporation. Each Accounting Officer is responsible inter alia for:
- safeguarding the public funds for which he has charge;
 - ensuring propriety and regularity in the handling of those public funds; and
 - the respective day-to-day operations and management of the Armagh Observatory or Armagh Planetarium.

7. Organisational Structure

The current structure of the Armagh Observatory and Planetarium is displayed below. There are approximately 45 staff and students.



8. Budget

- 8.1. The overwhelming majority of the organisation's budget is expended on meeting its statutory duties, with a proportionate level of governance, oversight and administration. Armagh Observatory and Planetarium has adapted to the DCAL Minister's new direction and is actively seeking to promote these obligations and target those most in need, wherever practicable and relevant to its core functions.
- 8.2. The indicative budget allocation from DCAL for 2015/16 is £1.356m of Resource per annum. This is substantially less than in previous years. Both divisions within AOP have had to make significant cuts in planned expenditure in order to project a balanced budget outturn for 2015/16. The following tables set out the DCAL grant-in-aid Resource allocation to the Armagh Observatory and Planetarium.

Observatory		
Salaries (Permanent research/support)	563.4	
Salaries (Fixed term research/support)	124.8	
Student fees/grants	125.7	
Other research costs	127.8	941.6
LESS research income/grants received		-284.1
NET Research expenditure		657.5
Buildings and grounds maintenance	108.6	
Salaries (administration/governance)	131.7	
Other administration/governance costs	27.9	268.2
Net Expenditure		925.7

Planetarium		
Salaries (Education)	322.4	
Salaries (Shop/Front Desk)	0.0	
Salaries (Administration/governance)	60.7	
Subtotal		383.1
Other educational costs/shows/promotional material	30.6	
Buildings and grounds maintenance	125.7	
Other general administration expenditure	29.7	
Gross expenditure		569.1
LESS other income/grants/admissions		-138.8
Net expenditure		430.3