



THE DISCOVERY PROGRAMME

An Clár Fionnachtana

Advancing research in Irish archaeology

ANNUAL REPORT 2010

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MESSAGE FROM THE CHAIRMAN

It is a very great pleasure, as the recently appointed Chairman of the Discovery Programme, to introduce this Annual Report for the year 2010. The report actually deals with the work of the organisation in the final year of the term of office of the outgoing Chairman, Dr Michael Ryan. Before going any further I would want to pay particular tribute to Dr Ryan for all the work he did for the Discovery Programme over many years and in various capacities but, most especially, during his two terms as Chairman - from 2001 to 2006 and again from 2006 to 2011. We wish Dr Ryan every good luck and success not only in his retirement from the Discovery Programme but also from his full-time position as Director of the Chester Beatty Library. We look forward in these new circumstances to the continuation of his research on the many areas of Irish archaeology with which he was previously involved. Very special thanks are due also to all the other outgoing members of the Directorate whose terms of office came to an end on 14 January this year but who, likewise, were in office during the period covered by this report.

As before, our accounts for the year 2010 were audited by the Comptroller and Auditor General and an extract from the draft accounts is included in this report. The complete accounts will be presented to the 2011 AGM of the Discovery Programme Ltd.

We are delighted that 2010 saw the publication of two major books resulting from Discovery Programme projects: Lough Kinale: Studies of an Irish lake, by Dr Christina Fredengren, Dr Annaba Kilfeather and Dr Ingelise Stuijts (published by Wordwell) and The Dublin Region in the Middle Ages: settlement, land-use and economy by Dr Margaret Murphy and Dr Michael Potterton (published by Four Courts Press). Various other major studies were advanced towards publication as will be outlined below. Staff also produced a number of other publications dealing both with their Discovery Programme projects and with work not specifically connected with those projects but which drew on the skills and experience of the organisation. As in previous years, members of staff also gave a number of lectures and presentations – highlighting the results of their research - to various audiences in this country and abroad.

Apart from the continuation of work on the core research programmes which will be described in detail below, members of staff also continued to work on a number of projects funded through INSTAR which is administered by the Heritage Council. Much of the contribution of the Discovery Programme to INSTAR is concerned with developing and protecting the important scientific data generated in the course of archaeological work for the future use of researchers.

We continue to derive additional benefits from having our offices located in the house of the Royal Society of Antiquaries of Ireland at 63 Merrion Square. It has been a great relief that before the end of the year covered by this report we were able to surrender the lease of our former premises at 34 Fitzwilliam Place.

We are of course indebted - particularly in these difficult times - for the continuing support of the Heritage Council; not only for their financial support but also for advice in several areas as well as continuous encouragement for our work and plans.

Finally, it just remains for me to congratulate all the staff in the Discovery Programme and their research colleagues in other institutions on another successful year ar thóir na sean – advancing research in Irish archaeology.

Prof. Terry Barry
Chairman

GENERAL REVIEW OF 2010

The Discovery Programme has been the name of our organisation since it was first established in 1991. For some time however it has been apparent that the name does not convey specifically enough the nature of the work we do - especially to those not involved directly in Irish archaeology. At its meeting in June 2010, the Directorate agreed that a tag would be added after the English language name of the organisation: The Discovery Programme: advancing research in Irish archaeology. This addition is a reasonably close approximation of our Irish language motto: *ar thóir na sean*.

The main work of the organisation for the past year has involved the finishing up of the two longstanding core projects: the Lake Settlement Project and the Medieval Rural Settlement Project.

Arrangements continued with the former staff of the Lake Settlement Project (LSP) for the writing up of all the outstanding reports. Dr Christina Fredengren, Ms Birgitta Larsson and Mr Dag Hammar continued to work in a part-time capacity on the project in Sweden while Ms Ylva Persson was employed on a part-time basis in Dublin. The first major publication for the project *Lough Kinale: Studies of an Irish lake*, by Dr C. Fredengren, Dr A. Kilfeather and Dr I. Stuijts - with major contributions from Dr Robbie Meehan and a number of staff members of the University of Exeter - was published. The book was launched for a second time on 5 June in Abbeylara, Co. Longford a mile or so from Lough Kinale itself. A special word of thanks is due to Cllr PJ. O'Reilly for his assistance in organising the event and also for the enormous amount of practical support he had given to the project over several years.

Considerable work was also done on improving the draft of the 'Islands of the Dead' volume and also the Derragh Island excavation report. The leading expert on the Irish Mesolithic period, Prof. Peter Woodman, critically reviewed the draft of the latter as well as offering other assistance and advice. Work on both these volumes will continue in 2011.

Except for some small amount of additional surveying, all fieldwork for the Medieval Rural Settlement Project (MRS) had been terminated in 2009, with the remaining project staff concentrating on finishing the writing up of a number of outstanding reports. In November the Office of Public Works made a small grant to facilitate some additional geophysical survey at the medieval manor site being investigated by the Discovery Programme at Castlemore, near Tullow, Co. Carlow. It is intended that the results of this survey will augment the existing surveys

at the site all of which will be published over the coming years. The book outlining the research of the Dublin module, *The Dublin Region in the Middle Ages: settlement, land-use and economy* - jointly authored by Dr Margaret Murphy and Dr Michael Potterton with a contribution from Dr Niall Brady, was published by Four Courts Press in October.

Dr Annaba Kilfeather's contract on the Barrow Valley Project had come to an end in December 2009. A final draft of the text of her report had been completed by then and the work was submitted to a referee early in 2010. The referee made a number of suggestions for improvements and although Dr Kilfeather was by then living outside Ireland she continued to work on the text and to collaborate by email with the GIS/Survey/IT staff on the finalisation of the illustrations. It is intended that work will continue in 2011.

Work also continued on bringing the reports of the Western Stone Forts Project to publication. The text for each of the two project volumes was completed and forwarded to a referee in October with a view to a report being received on them early in 2011.

Dr Kerri Cleary was employed for the last two months of 2010 in order to finalise the existing draft by Ms Finola Carroll of the study 'A regional analysis of the Late Bronze Age and Iron Age artefacts in North Munster'. This study had formed part of the North Munster Project and is the only aspect of that project to remain unpublished. The 60,000 word draft required to be edited and updated. It is hoped that the finished report will be ready to go for publication in 2011.

The Discovery Programme was successful in securing additional INSTAR funds from the Heritage Council for two projects - SHARE-it and WODAN - both of which had commenced in 2008. A third project which received renewed funding, 'Mapping Death' - although based in the Mícheál Ó Cléirigh Institute at UCD - had a major Discovery Programme involvement.

The GIS/Survey/IT department was successful in obtaining €200,000 over 5 years for the ArchaeoLandscape project which will facilitate the development of the SHARE-it project previously funded under the INSTAR programme. This was the largest single amount of the available funds made to any of the participating European organisations; an indication of the reputation built up by the Discovery Programme in this area of research. The project deals with the issues surrounding the archiving of digital data

from archaeological contexts, most especially data from various remote sensing projects.

In collaboration with the Dept. of Archaeology at NUI Galway, the GIS/Survey/IT department also carried out a season of geophysical surveying on the Hill of Tara. Postgraduate students from NUIG, UCC and NUI Maynooth worked on the project and received training in various geophysical surveying techniques. The work resulted in the doubling of the amount of geophysical survey previously completed for the Hill. Among other discoveries was a series of anomalies which may indicate the location and extent of the late medieval 'manor' of Tara.

Gary Devlin from the GIS/Survey/IT department participated in and gave a presentation to the first Radio-Past specialisation forum at the Roman archaeological site of Ammaia in Portugal on geomatic techniques for archaeology and cultural heritage; he also gave a demonstration of the use of a terrestrial laser scanner. Anthony Corns also contributed to the event from Ireland using VOIP Skype technology. While there, Gary also did a laser scan survey of some areas of the Roman site.

Following various meetings in previous years about 'future projects' a seminar involving the Council, Directorate and staff was held on 16 February to finalise decisions. Three project topics were agreed:

- *A scoping study outline for a proposed project on Iron Age Settlement.*
- *A scoping study outline: The Archaeology of Change – Ireland from the 4th to the 8th century AD.*
- *A scoping study outline for a proposed environmental research project 1000BC-AD1300.*

Following further detailed discussions the CEO was instructed to draw up job descriptions and to proceed with an appointments' procedure for a number of new posts related to these projects. However over the summer, as the problems in the national economy became clearer and the prospect of reduced funding became more certain, it was decided that a series of short-term contracts/projects for specific aspects of each of the three proposals would be put in place rather than the longer term jobs originally envisaged. Final reports on each of these curtailed projects were completed by the end of the year. For membership of the three subcommittees dealing with these issues see Appendix 3.

Under the 'restructuring' arrangements agreed in 1998 with the Department of Arts, Heritage, Gaeltacht and the Islands, the Company accounts (for 2009) were audited by the Comptroller and Auditor General in 2010. As the Discovery Programme is now funded directly by the Heritage Council, relations with the Department of the Environment, Heritage and Local Government are

restricted to a small number of specified matters, such as pensions. However, no relevant issues arose this year.

Communications with the Heritage Council, our funders, continued to be excellent. The Chief Executive of the Heritage Council, Mr Michael Starrett, was a member of the Directorate and also chairman of the Discovery Programme Audit Committee. Discovery Programme staff were in frequent contact with staff of the Heritage Council throughout the year, especially with the Head of Conservation (formerly the Archaeology Officer), the Human Resource Manager and the Financial Controller.

Some further progress was achieved in terms of implementing the government's Code of Practice for the Governance of State Bodies. The renewed effort by the administration staff to sell Discovery Programme back publications at various archaeological conferences and events resulted in additional sales.

Following its meeting in October, the Council elected five members of the new Directorate to come into office on 15 January 2011:

Mr C. Bourke

Ms M. Cahill

Mr C. Manning

Dr T. Ó Carragáin

Dr G. Warren

Following its meeting in December, the Heritage Council announced the appointment of three members and the new Chairman:

Prof. T. Barry (Chairman)

Mr I. Doyle

Dr R. Moss

Dr E. O'Brien

Prof. Barry is the longest serving member of the Directorate and has been very active in a number of specific areas of concern to our organisation.

The sub-leasing of our former premises at 34 Fitzwilliam Place continued to be a matter of concern for much of the year. Unfortunately the sub-tenants who had leased 80% of the building from us in 2009 went into voluntary liquidation and had to vacate the building in July having paid, however, all outstanding debts due to us. In December with the prospects of further cuts to our funding arising from the considerable reduction in the Heritage Council's budget for 2011, the CEO approached the landlord with an offer to buy out the remaining portion of the lease up to the break option in 2012. The offer was accepted and from 22 December the Discovery Programme ceased to have any further responsibility or liability for the building.

DISSEMINATION OF INFORMATION

Two Discovery Programme books appeared this year: Lough Kinale: Studies of an Irish lake - jointly authored by Dr C. Fredengren, Dr A. Kilfeather and Dr I. Stuijts - was published by Wordwell; and The Dublin Region in the Middle Ages: settlement, land-use and economy - jointly authored by Dr Margaret Murphy and Dr Michael Potterton - was published by Four Courts Press. The Discovery Programme is particularly grateful to Fingal County Council for a financial contribution towards the publication of the latter book. As previously described, a number of draft volumes were also advanced towards publication. Publications by members of staff in other outlets but relating to Discovery Programme projects are listed in Appendix 6. Staff also continued to publish on aspects of their private research in various external outlets (see Appendix 6 also).

Staff members were active lecturing on their work for the Discovery Programme and on their private research at conferences in Ireland and abroad, as well as to university classes and student groups, and to various learned and local societies (Appendix 7). It should be noted that due to financial constraints it was necessary for members of staff to finance attendance at most of the conferences themselves, including, in most instances, those at which they were speaking on Discovery Programme projects. Dr Gerard Clabby the Heritage Officer for Fingal County Council organised a public seminar 'Discovering Fingal' at the Fry Railway Museum at Malahide Castle on 30 October in association with a second launch of The Dublin Region in the Middle Ages: settlement, land-use and economy. Four members of the Discovery Programme staff (and former staff) gave presentations on aspects of their research which touched on the local heritage. The participants were: Dr N. Brady, Dr B. Lacey, Dr M. Murphy and Dr M. Potterton.

Our website at www.discoveryprogramme.ie, continued to be updated throughout the year with Discovery Programme news items. A major reconstruction of the site is also underway.

EXPENDATURE DURING 2010

A grant of €1,300,000 for 2010 - a slight reduction of €31,000 on the sum for 2009 - was made available by the Heritage Council. That sum combined with a small amount of additional income from various sources and surplus funds carried over from 2009 (in total an additional €104,915) created available finance for our general expenditure of €1,404,915. The INSTAR programme also generated additional funds but much of that was not due for payment until early in 2011.

The CEO's salary in 2010 (calculated on Assistant Principal grade 63235 LSI2) was €80,678, plus €8,068 contribution by the Company to his pension fund. The CEO received €41.63 for travel expenses and was paid €1,610.84 for other vouched expenses (mainly general items purchased for the Company by personal credit card).

Members of the Directorate (Board of Directors) receive no fees. In 2010 the following sums were paid for expenses: Prof. T. Barry – €83.15; Prof. R. Mercer - €569.17; Dr M. Ryan - €262.38; Ms R. Cleary – €95.70 and Dr K. O'Conor - €779.94.

STAFF MATTERS

A number of staff meetings took place during the year. 'Family-friendly' work practices were continued. No further changes were made to the pension arrangements. As the world financial situation continued to be unstable, it was decided to defer any change but to keep the issue under continuous review.

EXPERTISE

APPLIED RESEARCH IN ARCHAEOLOGY

The main remit of the Discovery Programme is, through archaeological research, to enhance our knowledge of the past of Ireland. A secondary but closely related responsibility is the development and introduction of new research techniques. The Discovery Programme implements this policy in relation to its own projects but also makes such developments (and related training) available to others also involved in Irish archaeology.

GIS & SURVEY

ANTHONY CORNS, ROBERT SHAW & GARY DEVLIN

The main priority of the GIS and Survey section is to support the core research projects, both in the field and in the office. With the two major projects, LSP and MRSP nearing completion a greater than normal emphasis was placed on office tasks, including database management, the digitisation of plans, sections and publication mapping. However, as can be seen in the following sub-sections some fieldwork was completed particularly for the MRSP and collaborative projects with other organisations. Research into techniques and technologies continued throughout the year with significant progress on high resolution laser scanning of rock carved surfaces, and in the area of 3D reconstructions and visualisations. Support was also provided to the INSTAR funded Mapping Death and WODAN projects.

MRSP

While 2010 saw the MRSP concentrating on preparing material for the forthcoming monographs, a number of interesting survey tasks were completed for the project:

TOPOGRAPHIC MODEL FOR TULSK

To place the archaeological monuments of Tusk in their landscape context a terrestrial laser scan survey was completed of the surrounding area, and from this a local DEM generated. Intensive laser scanning from carefully selected stations across the landscape enabled an area 500m x 200m (approx.) to be surveyed in three days with a 10cm resolution DEM generated as an end result.

VIRTUAL LANDSCAPE OF ROSCOMMON TOWN

Following on from the high resolution laser scanning of Roscommon priory in 2009 an experimental digital reconstruction of the Priory and the surrounding landscape was attempted. Drawing on the empirical evidence from the laser scan, topographic and the geophysical survey results; together with evidence from antiquarian drawings and similar dated structures the first stage was the reconstruction of the priory itself. Estate plans and historical maps were examined to understand how the local landscape may have appeared in medieval times, and these features were integrated into the final digital model. The modelling process was complex requiring extensive understanding of 3D software, including Autocad, 3D Studio and Vue, and required iterative methods, working closely with our archaeological colleagues to refine the end result. The models are best appreciated when observed in 3D where viewing positions and lighting conditions can be adjusted to maximise their value.

The success of this Roscommon reconstruction prompted further models to be developed, including Ballintobber Castle and Castlemore medieval settlement in Co. Carlow for the MRSP.

CASTLEMORE GEOPHYSICAL SURVEY

A small, but significant additional block of geophysical survey was added to the research of Castlemore for the MRSP southeast module. The results of this magnetic gradiometry survey, to the east of the graveyard, appeared to confirm an eastern extent of the settlement which had been so clearly identified in the previous geophysical surveys. This evidence prompted the decision taken at the end of 2010 to significantly increase the area of the magnetic gradiometry survey in the hope of defining the extents of this substantial medieval settlement.

ARTEFACT RECONSTRUCTION

A new area of work for the Discovery Programme has been to create digital reconstructions of artefacts. Working with the MRSP finds from the Roscommon module, the primary source for these reconstructions is close range laser scan data gathered using the NextEngine object scanner. A number of individual overlapping scans are gathered and subsequently processed by registration and wrapping the scans into a single 3D 'object' using Geomagic Studio software.

The resulting 3D model can then be exported to AutoCAD or Realworks where it can be measured and manipulated to allow the generation of artefact reconstructions. The final photorealistic reconstructions were created using Autodesk 3DS Max.

PUBLICATIONS

An intensive programme of mapping and preparing illustrations for a number of Discovery Programme publications continued through 2010. The material for the monograph *The Dublin Region in the Middle Ages* was finalised and the book was published and launched in September. Major progress was made on both *The Western Stone Forts* and *Barrow Valley* monographs with extensive map re-design in preparation for their final publication.

TARA GEOPHYSICAL SURVEY

A collaborative geophysical survey was undertaken at the Hill of Tara, working with the School of Archaeology at NUI Galway. In total, four survey weeks were spent in the field working with staff from Galway and student volunteers from a variety of academic

institutions. Operating with a range of sensors – magnetic gradiometers, electrical resistivity meters and magnetic susceptibility meters, it was an extremely productive campaign, significantly increasing the area of Tara covered by geophysical survey. The survey included areas outside the state-owned land. Some significant new discoveries were made, including – almost certainly – the late medieval settlement on the hillside and associated enclosures. The raw data is now being subjected to detailed processing and interpretation, with a view to a future major publication.

During the time on site a number of public lectures were given to visitors and the local community, and the survey was covered by RTE as an item on the 'Six One' news.

RADIO-PAST

Radiography of the Past, (Radio-Past) is a project funded by the EU People – Marie Curie Action IAPP (Industry-Academia Partnerships and Pathways). It aims to develop 'open laboratories for research and experimentation', where academic and industrial partners can join their resources to develop integrated non-destructive approaches to the understanding of complex archaeological sites. The project has its base in the Roman archaeological site of Ammaia in Portugal.

In July 2010 the Discovery Programme was delighted to be asked to make a contribution to the first Radio-Past specialisation forum. Gary Devlin attended the forum where he gave a presentation about geomatics techniques for archaeology and cultural heritage. He also gave a demonstration of the use of a terrestrial laser scanner to the 20 participants on the Radio-Past course. Anthony Corns also contributed to the event by giving a lecture about digital photogrammetry for archaeological survey from Ireland via an internet Skype connection.

A laser scan survey of some components of the Roman site of Ammaia was completed while Gary was on site. This included the Porta Sul or temple podium. It is envisaged that this data will be used as the basis of a digital three-dimensional reconstruction of the site. The activities of the Radio Past forum, including Gary Devlin's surveys were covered for an item on the national news on Portuguese television.

ARCHAEOLANDSCAPES PROJECT (ARCLAND)

In 2010 the Discovery Programme was informed that its application to the EU Commission for Culture 2007-2013 funding was successful for the collaborative project: ArchaeoLandscapes. The Discovery Programme will receive €200,000 in funding over a 5 year period. The ultimate aim will be the use throughout Europe of aerial survey and 'remote sensing' to promote understanding, conservation and public enjoyment of the shared landscape and archaeological heritage of the countries of the European Union. The ArchaeoLandscapes project represents the culmination of growing European cooperation from the mid-1990s onwards. It will bring that process to a sustainable and self-supporting future as the long-term legacy of this and earlier EU-assisted

initiatives. Through partners in almost every part of Europe the project will mount a concerted attack on systemic shortcomings and unrealized potential in a field which can enrich the lives of countless citizens across the continent.

Public awareness and dissemination of skills in aerial and remote sensing techniques at a European scale will be achieved by the ArchaeoLandscapes project through the following eight key actions:

1. By creating an ultimately self-supporting ArchaeoLandscapes Network, with a small central secretariat, to provide leadership, coordination and advice on the use for heritage purposes of aerial photography, remote sensing and landscape studies.
2. By using traditional and innovative methods to publicise the value of aerial survey, remote sensing and landscape studies amongst the general public, students, teachers and all those who explore, enjoy or care for cultural landscapes and heritage sites across Europe.
3. By promoting the pan-European exchange of people, skills and understanding through meetings, workshops, exchange visits, placements and opportunities for specialist training and employment.
4. By enhancing the teaching of remote sensing and landscape studies through courses for students and teachers, and in the longer term through a European Masters degree in remote sensing and heritage management.
5. By securing the better exploitation of existing air-photo archives across Europe by researching, assessing and publicising their potential for heritage interpretation and landscape conservation.
6. By providing support for aerial survey, remote sensing and landscape exploration in countries relatively new to their use, especially in northern, eastern and southern Europe.
7. By further exploring the uses of laser, satellite and other forms of remote sensing and web-based geographical system in archaeological and landscape research, conservation and public education.
8. By providing technical guidance and advice on best practice in aerial survey, remote sensing and landscape studies, with a particular emphasis on conservation and heritage management.

The Discovery Programme has several key roles within the project, including:

- Coordination of Action 2: Promotion of aerial archaeology and remote sensing to a wider community
- Development of a European-wide spatial data infrastructure (SDI) for the sharing and reuse of archaeological spatial data

- Development of an online archive for the aerial images in Ireland
- Membership of the 8 member project management team.

The project, which commenced in September 2010, is part-funded over five years by the EU Culture 2007-2013 Program. In total there are 27 partner organisations, including UCD School of Archaeology and additional associated partner organizations from across the European region.

COLLABORATIVE PROJECTS

The Discovery Programme was again asked to collaborate with other organisations on a number of exciting projects.

FERGUS ESTUARY LASER SCANNING – A UCD COLLABORATION

The Discovery Programme collaborated with UCD School of Archaeology on a Heritage Council grant-funded project to conduct advanced studies on the remains of wooden fishweirs exposed on the mudflats of the Fergus Estuary (Co. Clare) near Boarland Rock. Part of the project aimed to apply terrestrial laser-scanning survey techniques to assess the value in recording such complex and fragile remains at high resolution in 3D, generating data sets which could then be examined and studied in greater detail off-site.

The wooden remains - situated on thick mudflats in the middle of the estuary - are only exposed during periods of extreme low tides and even then for a maximum of only 3 hours a day. Access to the sites had to be carefully planned, hiring small flat-bottomed boats and local boatmen with detailed knowledge and experience of the tides and currents to land us and our equipment safely on site. The primary result of the survey is a geo-referenced point cloud dataset of the three primary structures chosen for recording.

CLONMACNOISE STONE DETAILS – NATIONAL MONUMENTS SERVICE, OPW

The Discovery Programme was asked by the National Monuments Service of the OPW to undertake the 3D recording of selected architectural detail of two structures at Clonmacnoise, Co. Offaly. The locations were Temple Finhin within the main Clonmacnoise complex and the Nun's Church to the east, recently brought into state care. The aim was to generate a suitably high resolution 3D dataset which would reflect the complexity of the sculptural detail present in the stonework.

The laser scanner used on the project was a Mensi GS101 time of flight scanner. Two geo-referenced pointcloud datasets - one for Temple Finhin and one for the Nun's Church - segmented into the architectural elements, were the primary deliverables of the project.

These were supplied with the instructions to download free viewer software (Trimble RealWorks Viewer), giving the user the ability to view, manipulate and measure directly from the 3D pointcloud.

KNOCKROE ORTHOSTAT – NATIONAL MONUMENTS SERVICE, OPW

The Discovery Programme was asked by the National Monuments Service of the OPW to undertake the 3D recording of a decorated orthostat. This had been removed from Knockroe chambered tomb to the OPW depot in Kilkenny for conservation purposes. Such a controlled environment with open access to the orthostat presented an exceptional opportunity to use laser scanning technology to generate a highly detailed 3D model of the decorated surface, and record the complete stone in 3D.

An inspection of the orthostat made it clear that a comprehensive 3D recording of the stone could be best achieved using a combination of our two laser scanners. Firstly the Mensi scanner was used to record the whole stone (minus the small part buried in the gravel supporting base). The result of this was a precise model of the complete orthostat, although at a 2mm resolution this was not intended to record the subtleties of the decoration. It did, however, provide a context and accurate dimensioning for the orthostat as a whole.

The second component of the scanning concentrated on the decorated face, this time using the NextEngine scanner. With sub-millimetre resolution and accuracy this produced a highly detailed 3D surface model fully reflecting the subtleties of the decoration. The combination of the two scanning techniques proved to be a great success.

LASER SCANNING RATHGALL STONE ENCLOSURES – NATIONAL MONUMENTS SERVICE, OPW

The OPW has recently undertaken a significant programme of vegetation removal at Rathgall hillfort in preparation for the planned opening of the site to the general public. The laser-scanning project aimed to take advantage of the reduced vegetation to add significantly to the 3D survey which the Discovery Programme had undertaken in 2005, concentrating on the inner enclosure and the revetted wall of the second rampart. The resulting 3D point cloud data enabled stone by stone detail to be interrogated and a range of plans and sections extracted.

INISHARK – LIDAR PROCESSING - UNIVERSITY OF NOTRE DAME

The Discovery Programme assisted Dr Ian Kuijt, University of Notre Dame in the specification and processing of a LiDAR survey of Inishark Island, County Galway. The resulting terrain models and associated

hill-shade images will assist in the identification and mapping of archaeological features and 18th-20th century settlements.

WEBSITE

In 2010 a new website structure was developed in-house for the Discovery Programme. The new website employs Joomla! open source content management software for the creation, management and update of the website. The employment of this technology has several advantages including: content creation tools for staff members and other interested parties, and the ability to utilise community created plug-ins for content enhancement.

Several new components of the website include:

- Forum tool for the online discussion within the wider archaeological community
- Field work map – enabled readers to follow the progress of field work across the country
- Creation of LinkedIn and YouTube channels for the dissemination of social media content.
- Creation of syndicated news service bringing together global archaeology news into a single page.

The domain www.discoveryprogramme.ie has been registered with Google Analytics which enables detailed monitoring of website uses, users and trends. This will enable the content to be fine-tuned to increase website effectiveness. These analytical results will be published in the 2011 Annual report as this service was initiated only in December 2010.

STUDENT PLACEMENTS

The Discovery Programme again assisted the School of Spatial Planning, Dublin Institute of Technology, by taking a Geomatics undergraduate student as part of their formal work placement scheme. Darragh Walsh worked on a voluntary basis with the GIS / Survey section for the month of April, primarily digitising survey plans from the MRSP Tusk excavation.

Other notable contributions came from the student volunteers for the Hill of Tara geophysical survey: Catherine Bishop, Sean Cassidy, Patrick Gleeson, Brid Green, Matthew Logue, Emmet Marron, and Sean Shanahan. Sean returned to the Discovery Programme later in the summer working on a number of GIS and mapping tasks, and assisting with the Castlemore geophysical survey.

ENVIRONMENTAL

DR INGELISE STUIJTS & AMY BUNCE

Environmental research has played a more important role in the work of the Discovery Programme since 2002. It formed an integral part of the two major projects now coming to conclusion: the Lake Settlement Project and the Medieval Rural Settlement Project. The environmental section of the Discovery Programme plays a similar role as the GIS and Survey section, i.e. supporting the 'core projects' as well as pursuing other research goals.

In 2010 there was no major Discovery Programme fieldwork and our principal activity was advancing the post-excavation research, especially for the Tusk excavations. The major task was the extraction of archaeobotanical charred remains and the preparation for radiocarbon-dating of selected samples. Sorting of all material was shared between the Discovery Programme's own environmentalists and, externally, Ryan Allen and Susan Lyons. Draft reports were prepared but the final texts await the completion of the excavation stratigraphic report. The identification of charcoal samples from the site was commenced. Small mice bone remains have been recovered and these were submitted for analysis to the taxidermist and mouse specialist Bauke Hoekstra in Almelo, Netherlands.

Work also continued on the remains from the Derragh Island excavation. Amy Bunce studied the large assemblage of hazelnuts from the site. She gave lectures on her results on two occasions, and is preparing a final report for publication. A selection of those hazelnuts will eventually be stored in the National Museum.

Although there was no specific Discovery Programme fieldwork in 2010, we took part in a coring campaign in some of the Sligo lakes led by Prof. Michael O'Connell and his team from NUI Galway, and Prof. Oliver Nelle and his team from Kiel University in Germany. Sligo archaeologist Martin Timoney also took part, adding his expert local knowledge.

During 2010 there was further discussion and preparation for the proposed new 'core projects'. These included a proposed study on the environment between c. 1500 BC and AD 1300. The draft documents were considered by the Directorate and Council and in November a pilot study was commenced by Dr Eileen Reilly and Dr Bettina Stefanini. A report was produced by the end of the year: 'A feasibility study examining environmental evidence from the period 1500 BC – 400 AD in Ireland' together with a database with detailed information. The report describes the identification, sourcing, collation and evaluation of data for this period for a number of proxies (Plant macrofossils,

testate amoebae and other microfossils). Wood/charcoal data were not included at this stage.

A number of meetings and conferences were attended and lectures given as listed in Appendix 7. A very special occasion was the visit in November/December by Ingelise Stuijts to Kyoto, Japan, at the invitation of Professor Yoshinori Yasuda, supported generously by the Obayashi foundation and Sonpo Japan Environment foundation. This was the first time that the Association of Environmental Archaeology conference was held outside Europe, and it turned out to be a great success. In conjunction with this conference, Dr Stuijts gave a lecture to the 39th International Workshop at the International Research Center for Japanese Studies IRCJS and also a simultaneously translated public lecture in Nichibunken, on the subject of 'sun worship'.

Every year some students seek work-experience with the Discovery Programme. This year we hosted a Master's student from University College Cork. Roibeárd de Paor worked initially with Tusk material - sorting out samples - but later assisted the WODAN project (see below) with data entry.

WODAN' PROJECT INSTAR GRANT NR. AR01042

WODAN is an initiative to develop an integrated online wood and charcoal database, hosting both archaeological and biological information. The project also aims at standardization of methodologies and the online sharing of information.

A lot of effort was put into preparing an application to INSTAR for the continuation of our WODAN project. This proved worthwhile and on 17 June we were informed that the bid was successful.

This year we focused on finishing the outlines and details of the database presentation online. We started inputting of the data and evaluating this process. A workshop on 2 November in conjunction with a meeting of the Irish Wood Anatomist Association (IWAA) brought people together to discuss all aspects of the project.

The project was presented at various conferences and poster sessions, including at the conference in Japan mentioned above. Both Cathy Moore and Roibeárd de Paor helped with data entry. They also helped to collect background data relating to the archaeological sites (such as dates, location, geology, detailed site information etc.). This data collection is essential but also very time-

consuming. The end-result is now online, and will be merged with the www.wodan.ie website in 2011.

As part of the outreach of this project there was a presentation of the integrated results to the conference 'Environmental Landscapes, Monuments, Memory and Maps, Discovering Kilkenny's Archaeological Landscapes' in Kilkenny on 9 October. This was well received, and will lead to a popular publication in 2011.

RESEARCH PROJECTS

REVEALING IRELAND'S ARCHAEOLOGY

The Discovery Programme fulfils its main remit by identifying - after wide consultation - major questions or gaps in our knowledge in Irish archaeology. A dedicated specialised team is then recruited to pursue the issue in question over a number of years. These so-called 'core projects' constitute the main work of the organisation and result in a series of scientific as well as more popular publications and presentations.

IN RESEARCH TERMS 2010 WAS SOMETHING OF AN INTERIM YEAR FOR THE DISCOVERY PROGRAMME. THE EXISTING CORE PROJECTS WERE ALL CONCENTRATING ON POST-EXCAVATION WORK AND THE WRITING-UP STAGES. THERE WAS VERY LITTLE FIELDWORK; THE PRELIMINARY STUDIES FOR THE NEW PROJECTS ONLY GOT UNDERWAY IN NOVEMBER AND DECEMBER. NEVERTHELESS A CONSIDERABLE AMOUNT OF WORK WAS ADVANCED.

THE MEDIEVAL RURAL SETTLEMENT PROJECT

DR NIALL BRADY, PROJECT DIRECTOR

Except for some small amount of additional surveying, all fieldwork for the Medieval Rural Settlement Project (MRS) had been finished in 2009. The remaining project staff – Dr Niall Brady (project director), Brian Shanahan (assistant project director) and a number of auxiliary staff (see Appendix 5) - concentrating on post-excavation work and finishing the writing-up of outstanding drafts including the reports on the work at Castlemore (Co. Carlow), the excavations at Tulsk (Co. Roscommon), and the wider landscape of Co. Roscommon study (including the Carns excavation). In November the Office of Public Works made a small grant to facilitate some additional geophysical survey at the medieval manor site being investigated by the Discovery Programme at Castlemore, near Tullow Co. Carlow. This work will augment the existing surveys at the site. The book outlining the research of the Dublin module, *The Dublin Region in the Middle Ages: settlement, land-use and economy* - jointly authored by Dr Margaret Murphy and Dr Michael Potterton with a contribution by Dr Niall Brady, was published by Four Courts Press in October. The book was

launched at a reception in the Royal Irish Academy on 27 October by the Minister of the Environment, Heritage and Local Government, Mr John Gormley TD, before a large gathering which included the Deputy Lord Mayor of Dublin, Cllr John Gallagher. Fingal County Council had made a generous donation to the publication and were represented by their Heritage Officer, Dr Gerard Clabby. Dr Clabby was also responsible for organising a public seminar 'Discovering Fingal' at the Fry Railway Museum at Malahide Castle on 30 October in which four members of the Discovery Programme staff spoke on aspects of their research which touched on the local heritage. Following the seminar, the Mayor of Fingal, Cllr Ken Farrell launched the Dublin book for the second time; the County Manager of Fingal, Mr David O'Connor also spoke.

Over the summer of 2010, Jimmy Schryver, Assistant Professor of Art History at the University of Minnesota, Morris, USA, spent some time working voluntarily on the project. Professor Schryver had previously worked on the excavation at Tulsk.

THE LAKE SETTLEMENT PROJECT

DR CHRISTINA FREDENGREN, PROJECT DIRECTOR

There are no full-time employees working on the Lake Settlement Project (LSP) but arrangements continued with the former staff for the writing up of the two outstanding reports. Dr Christina Fredengren, Ms Birgitta Larsson and Mr Dag Hammar continued to work in a part-time capacity on the project in Sweden while Ms Ylva Persson was employed on a part-time basis in Dublin. The first major publication for the project Lough Kinale: Studies of an Irish lake, by Drs C. Fredengren, A. Kilfeather and I. Stuijts - with major contributions from the Dr Robbie Meehan (on the geomorphology) and a number of staff members of the University of Exeter (on environmental aspects) - was published. The book was launched by the Minister of State Martin Mansergh TD at a reception in the library of the Royal Society of Antiquaries of Ireland on 21 April. Unfortunately the general European volcanic ash emergency prevented Dr Fredengren and a number of other important guests from attending what was otherwise a very pleasant event. Dr Fredengren was present, however, when the book was launched for a second time on 5 June in Abbeylara, Co. Longford by the Mayor of Longford, Cllr Peggy Nolan.

The venue was only a mile or so from Lough Kinale itself, and the event was attended by a large number of local elected representatives and people from the surrounding communities. A special word of thanks is due to Cllr PJ. O'Reilly for his assistance in organising the event and also for the enormous amount of practical support he had given to the project over several years.

Following a critical assessment by a number of internal 'readers', considerable work was also carried out by Dr Fredengren on improving the draft of the 'Islands of the Dead' volume (a study of skeletal material from lake contexts). Dr Patricia Lynch was the osteo-archaeologist involved with Dr Fredengren on this project. It is hoped that the text will be completed and ready to go for refereeing and publication in 2011. Similarly, work continued on various aspects of the report on the Mesolithic excavation at Derragh Island, Lough Kinale. The leading expert on the Irish Mesolithic period, Prof. Peter Woodman critically reviewed the draft of the latter as well as offering other assistance and advice. It is now felt this volume is unlikely to be ready to go for publication until 2012.

BARROW VALLEY PROJECT PROJECT

DR ANNABA KILFEATHER, PROJECT DIRECTOR

Dr Annaba Kilfeather's contract as director of the Barrow Valley Project came to an end in December 2009. A final draft of the text of her report had been completed by then and the work was submitted to a referee early in 2010. The referee made a number of suggestions for

improvements and although Dr Kilfeather was by then living outside Ireland she continued to work on the text and to collaborate by email with the GIS/Survey/IT staff on the finalisation of the illustrations. It is intended that the work will be ready to go for publication in 2011.

NORTH MUNSTER PROJECT – ARTEFACT STUDY

XXXXXXXXXX, PROJECT DIRECTOR

One secondary aspect of the North Munster Project which had not been completed previously was advanced towards publication. During that project, Finola O'Carroll had undertaken: 'A regional analysis of the Late Bronze Age and Iron Age artefacts in North Munster'. Substantial progress had been achieved on this 'cameo' study before

the project as a whole came to an end. In 2010 in association with Ms O'Carroll, Dr Kerri Cleary undertook the editing and updating of the existing text (of c.60,000 words), a task which had been largely completed before the end of the year. It is hoped that the study will be ready to go for publication in 2011.

WESTERN STONE FORTS PROJECT

CLARE COTTER, PROJECT DIRECTOR

Work on finalising the major project publications – particularly the excavation reports for a number of sites in the Aran islands, especially Dún Aonghusa – was completed and the draft (a text of some 500,000 words divided into two volumes) was sent to an external referee.

A very positive - but constructively critical – report was received from the referee by the end of the year. Work to incorporate the suggestions and to finalise the text and illustrations for publication will take place in 2011.

DISCOVERY PROGRAMME DIRECTORATE (BOARD OF DIRECTORS) 2006-2011



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Chester Beatty Library.
Appointed by the Heritage
Council with the approval
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2009-2013

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Chester Beatty Library. Appointed by the Heritage Council with the approval of the Minister of the Environment, Heritage, and Local Government.

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Institute of Archaeologists of Ireland

DR MICHELLE COMBER

National University of Ireland Galway

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Dept. of the Environment, Heritage and Local Government

DR EILEEN MURPHY

Queen's University Belfast

DR ELIZABETH O'BRIEN

Royal Society of Antiquaries of Ireland

MR RAGHNALL Ó FLOINN

Royal Irish Academy

DR JOHN O'KEEFE

Dept. of the Environment for Northern Ireland

DR GREER RAMSEY

Ulster Museum (Museums and Galleries of Northern Ireland)

DR COLIN RYNNE

University College Cork

MR BRIAN SHANAHAN

Discovery Programme Staff

DR GRAEME WARREN

University College Dublin

There is one vacancy, for a nominee of the National Museum of Ireland.

MEETINGS OF THE DIRECTORATE AND COUNCIL

MEETINGS OF THE DIRECTORATE

During the year the Directorate met in separate session on five occasions

16 February

20 April

15 June

28 September

23 November

MEETINGS OF THE COUNCIL

27 October

ANNUAL GENERAL MEETING

The AGM was held on 23 November

JOINT MEETINGS

There was a special joint meeting on 16 February to discuss the nature of the future projects and their method of delivery. A joint meeting of the Council, Directorate and members of staff took place in the course of a fieldtrip to Tara on 21 July.

MEETINGS OF THE AUDIT COMMITTEE

20 April

8 June

23 September

In addition there were also a number of meetings of project committees, future project subcommittees, and meetings of groups of directors and staff which dealt with project, administrative and other specific issues.

MEMBERSHIP OF SUBCOMMITTEES ON FUTURE PROJECTS

IRON AGE SETTLEMENT

Mary Cahill (Chair)

Katharina Becker

Eamonn Kelly

Brian Lacey

Brian Shanahan

Richard Warner

THE ARCHAEOLOGY OF CHANGE – IRELAND FROM THE 4TH TO THE 8TH CENTURY AD.

Michelle Comber (Chair)

Niall Brady

Amanda Kelly

Brian Lacey

Betty O'Brien

Tomás Ó Carragáin

Brian Shanahan

PALAEOENVIRONMENTAL

Graeme Warren (Chair)

Niall Brady

Stephen Davis

Martin Downes

Steve McCarron

Fraser Mitchell

Gill Plunkett

Robert Shaw

Ingelise Stuijts

STAFF

THE FOLLOWING WERE MEMBERS OF STAFF OF THE DISCOVERY PROGRAMME DURING 2009

DR BRIAN LACEY

Chief Executive Officer

MS KATHLEEN O'SULLIVAN

Company Administrator

MS AOIFE KANE

Administrative Assistant

MR ANTHONY CORNS

GIS/Survey/IT Manager

MR ROBERT SHAW

Geo-surveyor

MR GARY DEVLIN

Assistant Geo-surveyor

DR INGELISE STUIJTS

Palaeoenvironmentalist

MS AMY BUNCE

Palaeoenvironmental Research assistant

MS ROIBEÁRD DE PAOR

Palaeoenvironmental Research assistant

MR JOHN WHITE

INSTAR WODAN – Web designer

MS YLVA PERSSON

LSP Research Archaeologist

DR NIALL BRADY

MRS Project Director

MR BRIAN SHANAHAN

MRSP Assistant Project Director

DR RORY SHERLOCK

MRSP Research Archaeologist

MS KATHERINE DALY

MRSP Research Archaeologist

Ms Anne Connon and Dr Margaret Murphy (former MRSP Project Historians) continued to be involved with the project.

MS MICHAEL ANN BEVIVINO

INSTAR 'Mapping Death' Research Assistant

MR BRIAN KEENAN

INSTAR 'Mapping Death' Research Assistant

MS CLAIRE COTTER

Western Stone Forts Project

DR MICHELLE COMBER

Future projects feasibility study

MS ELIZABETH DAWSON

Future projects feasibility study

MR NOEL MCCARTHY

Future projects feasibility study

PUBLICATIONS AND REPORTS BY MEMBERS OF STAFF

ANTHONY CORNS

With R. Shaw, 'High resolution 3-dimensional documentation of archaeological monuments & landscapes using airborne LiDAR', *Journal of Cultural Heritage*, Vol. 10, Supplement 1, (2009), 72-77.

With R. Shaw, 'Cultural Heritage Spatial Data Infrastructures (SDI) - Unlocking the Potential of our Cultural Landscape Data, In *Proceedings of the 30th EARSeL Symposium: Remote Sensing for Science, Education Natural and Cultural Heritage* (ed.) Rainer Reuter, 2010, (<http://www.earsel.org/?target=publications/proceedings/symposium-2010>).

BRIAN LACEY

'Medieval Columban pilgrimages in Derry and Donegal', *Donegal Annual 61*, 2009 (published Jan 2010), 6-20.

'Some large hilltop and hill-slope stone enclosures in County Donegal', in G. Cooney, K. Becker, J. Coles, M. Ryan and S. Sievers (eds) *Relics of Old Decency: Archaeological Studies in Later Prehistory – Festschrift for Barry Raftery*. Dublin, 499-505.

'A Survival of Lug's Cult in West Donegal', in *Kelten am Rhein: Akten des dreizehnten Internationalen Keltologiekongresses – Proceedings of the Thirteenth International Congress of Celtic Studies (Beihefte der Bonner Jahrbücher, Band 58, 2)*, Main am Rhein 135-8.

'Ancient "rocket" attack on Rossdalla', in M. Davies, U. MacConville and G. Cooney (eds) *A Grand Gallimaufry, collected in honour of Nick Maxwell*. Dublin, 36-7.

'Colum Cille's first steps as a baby', in M. Davies, U. MacConville and G. Cooney (eds) *A Grand Gallimaufry, collected in honour of Nick Maxwell*. Dublin, 67-8.

'Mitchelburne's "holy well" in Derry: its Catholic "saint" a Protestant "hero"', in M. Davies, U. MacConville and G. Cooney (eds) *A Grand Gallimaufry, collected in honour of Nick Maxwell*. Dublin, 143-5.

'St Lachtin's Arm-shrine and the cult of Lug', in M. Davies, U. MacConville and G. Cooney (eds) *A Grand Gallimaufry, collected in honour of Nick Maxwell*. Dublin, 200-1.

'The Gaels and their ancient ancestry', in M. Davies, U. MacConville and G. Cooney (eds) *A Grand Gallimaufry, collected in honour of Nick Maxwell*. Dublin 2010, 226-8.

'Adomnán and Donegal', in J.M. Wooding, R. Aist, T.O. Clancy and T. O'Loughlin (eds) *Adomnán of Iona*. Dublin 2010, 20-35.

'The early church site at Carrowmore/Both Chonais, Inishowen', *Donegal Annual* 2010.

'The Medieval Rural Settlement Project', *Heritage Outlook* Winter 2010, 37.

'Bloody Sunday', (short article on the death of Major Robins Alers-Hankey in response to the Saville report), *History Ireland* Dec 2010, 14.

'Facts and fabrications: the earls and their Ulster ancestry', in D. Finnegan, M. Harrigan and E. Ó Ciardha (eds) *The Flight of the Earls: Imeacht na nIarlaí* Derry, 94-103.

ROB SHAW

With A. Corns, 'High resolution 3-dimensional documentation of archaeological monuments & landscapes using airborne LiDAR', *Journal of Cultural Heritage*, Vol. 10, Supplement 1, (2009), 72-77.

With A. Corns, 'Cultural Heritage Spatial Data Infrastructures (SDI) - Unlocking the Potential of our Cultural Landscape Data, In *Proceedings of the 30th EARSeL Symposium: Remote Sensing for Science, Education Natural and Cultural Heritage* (ed.) Rainer Reuter, 2010, (<http://www.earsel.org/?target=publications/proceedings/symposium-2010>).

INGELISE STUIJTS

Various contributions in C. Fredengren, A. Kilfeather and I. Stuijts, *Lough Kinale: studies of an Irish lake*. Discovery Programme Monograph No. 8. Wordwell, Dublin.

'WODAN – a database for wood and charcoal identifications', in I. Stuijts, L. O'Donnell, A. Corns, J. McAuley, R. Shaw, A. Bunce, K. O'Sullivan, *Archaeology Ireland* 24 No 4, 40-42.

LECTURES

THE FOLLOWING ARE A LIST OF LECTURES AND PRESENTATIONS GIVEN BY MEMBERS OF STAFF OF THE DISCOVERY PROGRAMME DURING 2010

AMY BUNCE

6 February, 'Forgotten Lakes?' Poster presentation, UCD conference Wetland Archaeology in Ireland and Beyond, Dublin.

21 April, 'Hazelnuts from Derragh Island: a plan', Discovery Programme Research Seminar, Dublin.

3 September, 'WODAN: Irish Wood and Charcoal online database' Poster presentation, European Association of Archaeologists, The Hague, Netherlands.

16 September, 'Wholly deposited: The hazelnuts from Derragh Island', Meso2010, The Eighth International Conference on the Mesolithic in Europe - 13th-17th September 2010, Santander, Spain.

16 September, 'Demonstration of the 'WODAN'-project', Meso2010, The Eighth International Conference on the Mesolithic in Europe - 13th-17th September 2010, Santander, Spain.

ANTHONY CORNS

21 April, 'Introduction to the Archaeolandscapes Project', DP Seminar, 63 Merrion Square.

3 February, 'GIS & Archaeology', Department of Archaeology, NUI Galway.

28 May, 'Sharing spatial data, Space and settlement in the Middle Ages', The Final Frontier conference, Trinity College Dublin.

27 June, 'Technological Research at The Discovery Programme', Irish Conference of Medievalists, NUI Galway.

6 July, 'Digital Photogrammetry for Archaeological Survey, EU Radio-Past Project (Radiography of the past. Integrated non-destructive approaches to understand and valorise complex archaeological sites)', First Specialization Forum, Ammaia, Portugal (delivered via Skype).

28 July, 'New Geophysics at Tara', Walks and Talks on Hill of Tara Programme, Hill of Tara visitor centre.

15 October, 'Technology with Archaeology', Masters Landscape Archaeology Class, Department of Archaeology, UCD.

GARY DEVLIN

21 April, 'From Data capture to Visualization: Reconstructing the medieval landscape' DP research seminar, 63 Merrion Square.

5 July, 'Geomatics techniques for archaeology and cultural heritage', First Specialisation Forum, Ammaia, Portugal.

BRIAN LACEY

8 February, 'A review of the Discovery programme', RSAI Monday seminars, RSAI, Dublin.

25 February, 'The landscape archaeology of the early medieval kingdoms of Donegal', Archaeology Society, University College Cork.

5 March, 'Sites, saints and sieges', 2nd year undergraduate public history students, Queen's University Belfast.

21 April, 'The archaeology of the Síl Lugdach of Donegal', DP research seminar 63 Merrion Square.

20 May, (with Senator David Norris) 'Homosexuality in Irish history', South Dublin County Library, Tallaght, Co. Dublin.

26 June, 'The Amrae Coluimb Chille and the Uí Néill', Conference of Irish Medievalists, National University of Ireland, Galway.

10 August, 'Colum Cille, Ireland's other patron saint', Éigse Eachla, Belmullet, Co. Mayo.

24 September, 'The Battle of Cúl Dreimne: a speculative reassessment', Sligo Field Club, Sligo Institute of Technology.

30 October, 'Colum Cille: a local and a national saint', Discovering Fingal seminar, Fry Railway Museum, Malahide Castle, Co. Dublin.

5 December, 'Admiral Boyle Somerville: archaeologist and pioneering archaeoastronomer', Cork Historical and Archaeological Society, Maryborough House Hotel, Douglas, Cork.

Brian Lacey also chaired sessions at the Conference of Irish Medievalists, NUIG (27 June) and at the RSAI/Discovery Programme Early Medieval church sites in the light of recent excavations, RSAI, (12 November). He also made contributions to programmes on RTÉ 1 television and BBC Radio Foyle.

ROB SHAW

3 March, 'Archaeological Surveying', MA Landscape Archaeology course, NUI Galway.

26 March, 'High resolution LiDAR specifically for archaeology: Are we fully exploiting this valuable resource?', Europae Archaeologiae Consilium, Reykjavik.

21 April, 'Close range digital documentation for cultural heritage', DP research seminar 63 Merrion Square.

26 April, 'Airborne and ground-based laser scanning: heritage and archaeology', Continuous Professional Development course, DIT.

1 June, 'Cultural heritage spatial data infrastructure', EARSeL – European Association of Remote Sensing Laboratories, Paris.

29 July, 'Remote sensing – detailed modelling of landscapes .. and more', Hill of Tara visitor centre.

INGELISE STUIJTS

7 February, 'Trouble or opportunity: Marginal woodlands in Ireland', UCD conference Wetland Archaeology in Ireland and Beyond, Dublin.

8 February, 'Environmental archaeology and the Discovery Programme', RSAI Seminar, Dublin.

5 March, 'A matter of scale and perception: Environmental archaeology and archaeobotany', CPD course for the Institute of Archaeologists of Ireland, Trinity College Dublin.

16 April, 'Seeing the woods for the trees – the WODAN-database for archaeological wood and charcoal', lecture and poster at Spring Conference Institute of Archaeologists of Ireland, Galway.

21 April, 'The WODAN project – an update', Discovery Programme Research Project Seminar, Dublin.

9 October (with Scott Timpany), 'Environmental Landscapes', Monuments, Memory and Maps, Discovering Kilkenny's Archaeological Landscapes Conference, Kilkenny.

2 November, 'WODAN- an update', WODAN workshop, Dublin.

30 November (with Margaret Gowen), 'Who, what, why and whither in Derryville Bog, County Tipperary, Ireland', IRCJS International Research Center for Japanese Studies, Kyoto, Japan.

2 December, 'Opening ways to the future: on-line sharing and archiving of environmental data through the WODAN project', Association for Environmental Archaeology, Kyoto, Japan.

INCOME AND EXPENDITURE ACCOUNT

For the year ended 31 December 2010

INCOME

	2010	2009
	€	€
Income - Heritage Council	1,300,00	1,331,000
Income - INSTAR	77,075	108,993
Income - Outsourced Services	30,369	2,129
Other Income	6,301	9,307
Interest receivable	1,492	-
	<u>1,415,237</u>	<u>1,451,429</u>
Transfer (to)/from capital account	27,151	66,761
	<u>1,442,388</u>	<u>1,518,190</u>

EXPENDITURE

	2010	2009
	€	€
Wages and salaries	791,786	833,582
Interest and charges	435	294
Promotions and conferences	12,013	14,367
Office and accomodation	309,018	239,451
Research consultancy	244,726	248,604
Photography	350	2,170
Training	566	-
Travelling and subsistence	14,737	20,236
Publications	39,449	61,323
Accountancy and professional fees	19,385	55,903
Auditors remuneration	4,700	4,700
Subscriptions	1,862	2,490
Depreciation	31,896	73,821
Loss on disposal of fixed assets	4,498	480
Fieldwork and excavation costs	3,019	20,434
	<u>(1,478,440)</u>	<u>(1,577,855)</u>
(Deficit)/surplus for the year	(36,052)	(59,665)
Opening surplus 1 January	159,888	219,553
	<u>123,836</u>	<u>159,888</u>

The financial statements were approved by the board of directors on 27 September 2010 and signed on its behalf by Ms R. Cleary and Prof. T Barry

BALANCE SHEET

At 31 December 2010

	2010	2009
	€	€
FIXED ASSETS		
Tangible Assets	<u>44,665</u>	<u>171,816</u>
CURRENT ASSETS		
Stocks	17,060	19,466
Debtors	49,882	102,168
Cash at bank and in hand	<u>135,436</u>	<u>108,220</u>
	202,378	229,854
CREDITORS (amounts falling due within one year)	<u>(78,542)</u>	<u>(69,966)</u>
NET CURRENT ASSETS	<u>123,836</u>	<u>159,888</u>
TOTAL NET ASSETS	<u>168,501</u>	<u>231,704</u>
CAPITAL AND RESERVES		
Capital Account	44,665	71,816
Income and expenditure account	<u>123,836</u>	<u>159,888</u>
TOTAL CAPITAL EMPLOYED	<u>168,501</u>	<u>231,704</u>