ICRIN operates as a business unit of Molecular Medicine Ireland and as the Irish member of the European Clinical Research Infrastructure Network (ECRIN) it is part of a European-wide effort to build an infrastructure for multi-centre and multi-national clinical trials sponsored by academic institutions and SMEs.

The DCCR programme provides the infrastructure – the physical space, facilities and trained staff – needed to support collaborative clinical research studies across Dublin involving the TCD, UCD and RCSI Medical Schools, their associated teaching hospitals and Molecular Medicine Ireland (MMI).

MMI is the coordination hub for cross-institutional delivery of structured PhD programmes in clinical and translational research and for continuing professional development short courses. MMI works with industry in all aspects of education and training.
Contents

Annual Report 2012

MMI Highlights 2012 ................................................................. 4
10 Year Anniversary ................................................................. 5
Chairman's Statement ............................................................... 6
CEO Statement ..................................................................... 7
MMI Structure & Governance .................................................. 8
MMI Strategy ....................................................................... 9
MMI Board of Directors ........................................................... 10
Irish Clinical Research Infrastructure Network ......................... 12
Dublin Centre for Clinical Research .......................................... 18
MMI Education & Training ......................................................... 26
Communications .................................................................. 34
Financial Statement ................................................................. 35
Molecular Medicine Ireland Highlights

10yr Anniversary Celebration for MMI

48 PhD Scholars and Clinician Scientist Fellows since 2008

ICRIN Engagements with Industry
250+ Engagements

DCCR Disease Group Seminar
P21

DCCR Publications
P25

+29% Website visitors

ECRIN AGM hosted by ICRIN in Dublin Castle

250+ Attendances at MMI Courses and Workshops in 2012

4000 patients recruited to DCCR Network Studies

420 GCP trained

MMI worked with 26 companies to offer industry placements to the first intake of CTRSP Scholars

P5

P15

P28

P29

P18

P25

P21

P34

P20

P32
Molecular Medicine Ireland celebrated its tenth anniversary in 2012 as a unique biomedical research collaboration between NUI Galway, the Royal College of Surgeons in Ireland, Trinity College Dublin, University College Cork and University College Dublin.

Established in 2002 as the Dublin Molecular Medicine Centre (DMMC), a joint venture between Trinity College and UCD and joined by RCSI in 2005, the entity became a national body with the accession of NUI Galway and UCC in 2008 and was launched as Molecular Medicine Ireland. MMI was created to mobilise the strengths of the five partner institutions and their associated hospitals to build a sustainable national system to co-ordinate, support and promote translational and clinical research.

Throughout the past decade MMI succeeded in winning substantial funding awards for cross-institutional projects such as the Programme for Human Genomics (PHG), the Irish Clinical Research Infrastructure Network (ICRIN), the Dublin Centre for Clinical Research (DCCR) and the Clinician Scientist Fellowship Programme.

MMI’s tenth anniversary was celebrated on 25 June when co-founder and former Director of MMI, Professor Dermot Kelleher delivered a valedictory lecture prior to taking up the position of Principal of Faculty of Medicine at Imperial College London and Dean of the Lee Kong Chian School of Medicine in Singapore. Professor Kelleher previously held the positions of Vice-Provost for Medical Affairs and Head of the School of Medicine at Trinity College Dublin.

10 yr Dividend: €100.15m
ROI = 2990%
Chairman’s Statement

Thomas Lynch

In this, my second year as Chair of MMI, I continue to be impressed by the support for the collaborative mission of this organisation and its ambitious work programme.

In clinical research, through the DCCR, MMI and the partners manage and develop a network that provides essential resources including research nurse and IT support as well as facilitating collaborative disease groups. ICRIN provides a national and Europe facing hub for infrastructure development, with key experience in facilitating clinical research including GCP training and engagement with industry. At the end of 2012 we await the expected call for a national clinical research framework that will enable MMI and the partners to work with funders to develop a sustainable infrastructure that will serve Ireland well.

In the area of structured PhD programmes, MMI and the partners continue to build on their experience including a major engagement with industry in the new Clinical & Translational Research Scholars Programme. There were also impressive outputs from the Clinician Scientist Fellowship Programme, with graduates publishing widely and moving on to prestigious destinations. Here we have two PhD programmes that address key training needs for Ireland; to produce a pipeline of clinician scientists for leadership positions in academic medicine and to produce non-clinical PhD graduates equipped with transferable skills, industry-aware and trained in patient-focused research. The challenge for MMI and funders in this space is to sustain successful training programmes.

I would like to thank the MMI Directors for their support and commitment to the organisation and welcome Professor Michael Gill and Professor Ray Stallings who joined the Board in 2012. I want to acknowledge the contributions of Professor Dermot Kelleher, a founder of MMI, Professor Bill Powderly, a Board member since 2005, Dr Helen Ryan and Mr David Shanahan, who stepped down as Directors in 2012, and also John Coman who stepped down as Company Secretary that year.

Dr Ruth Barrington retired as Chief Executive this year. At a reception on 25 September, colleagues gathered to recognise her work during five years at the helm of MMI. I would like to thank Ruth for her personal commitment to the organisation. My thanks are due to the staff, including Dr Mark Watson who has stepped up to the role of Acting Chief Executive, for their work in ensuring that MMI is a nexus for high quality collaborative clinical and translational research.

Thomas Lynch
Chairman
In 2012, MMI pursued its collaborative mission through keynote programmes including the Dublin Centre for Clinical Research (DCCR) and the Clinical & Translational Research Scholars Programme (CTRS), and through the capacity-building work of the Irish Clinical Research Infrastructure Network (ICRIN).

By the end of this year, almost 4,000 patients had been recruited to DCCR network studies. November’s Disease Groups Seminar highlighted the research nursing and IT support provided. The construction of an important pillar of the network, the Wellcome Trust – HRB Clinical Research Facility at St. James’s Hospital, progressed well with the opening scheduled for Spring 2013. A major focus for the ICRIN team this year was the development of online resources including information on clinical research facilities and service providers, regulatory and ethical processes, and tools and guidance for clinical trials.

The DCCR were hosts for the UK Clinical Research Facility Network Conference in July, which provided an opportunity to further links with our nearest neighbour. European engagement was to the fore when ICRIN hosted the Annual Meeting of the European Clinical Research Infrastructures Network (ECRIN) in May, attended by representatives from 23 countries. ICRIN also hosted the Tenth Annual Cardiovascular Biomarkers Symposium, attracting researchers from North America and Europe.

Collaborative training activities in 2012 included ICRIN GCP courses and a 4th intake to the RCSI Certificate Course in Research Nursing as part of DCCR capacity building. The CTRSP provided a unique combination of research experience and transferable skills to its first intake of students, with over 20 companies, including SMEs and multinational pharma, offering placements. The collaboration supported five scholarships this year, with 100 applications from Ireland and overseas.

There are considerable synergies in these collaborative activities that are furthered by a common coordination through MMI; recognition is due to the staff, the directors and all those involved in MMI programmes this year. As Acting Chief Executive in the final quarter of 2012, I would like to thank my colleague Dr Ruth Barrington who retired as Chief Executive of MMI this year. She guided the collaboration effectively over the past five years and was an inspirational leader of the MMI team.
Molecular Medicine Ireland was established by the National University of Ireland Galway, the Royal College of Surgeons in Ireland, University College Cork, University College Dublin and Trinity College Dublin and their associated academic hospitals, as a research partnership to accelerate the translation of biomedical research into improved diagnostics and therapies for patients. It was previously known as the Dublin Molecular Medicine Centre, established in 2002. 

Molecular Medicine Ireland was formed in response to the need to create a critical mass of excellence in molecular medicine research and education in Ireland and to deploy a clinical research infrastructure to facilitate medicine into better healthcare provision. It was formally incorporated as a not-for-profit company in April 2008 and is funded from a number of sources including Higher Education Authority’s Programme for Research in Third Level Institutions, the Health Research Board, Enterprise Ireland, the Irish Cancer Society and the partners themselves. 

MMI is governed by a Board of Directors (see Page 10) and supported by an Executive Management Team, comprising the CEO of MMI and five directors who are leaders in medical research in the partner institutions. Queen’s University, Belfast is represented at MMI Board meetings in an observer capacity. At the end of 2012, the business of MMI was supported by a staff of 11 people.
VISION: Improved healthcare through the development of diagnostics and therapies from concept to realisation

MISSION STATEMENT:
The mission of MMI is to mobilise the strengths of the five partner institutions and their associated hospitals to build a sustainable national system to coordinate, support and promote translational and clinical research.

STRATEGIC OBJECTIVES:
- Connecting the key players in health, research and industry
- Attracting, training and retaining world-class researchers
- Working to provide state-of-the-art facilities, bio-resources and harmonised processes
- Networking partner clinical research facilities into a national infrastructure
- Representing Ireland in clinical and translational research infrastructures/networks in Europe and internationally
- Building collaborative research initiatives and opportunities

MMI VALUES
- Value for money
- Good Governance
- Sustainability
- Innovation
- Impartiality
- National Interest
- Collaboration
Molecular Medicine Ireland
Board of Directors

CHAIR:
Thomas Lynch

DIRECTORS:

Professor Bill Powderly
Member of MMI Executive Management Team
Head of the School of Medicine & Medical Science and Professor of Medicine & Therapeutics at University College Dublin and the Mater Misericordiae University Hospital

Professor Michael Keane
Professor of Medicine and Therapeutics at University College Dublin and Consultant Respiratory Physician at St Vincent’s University Hospital

Professor Jonathan Hourihane
Member of MMI Executive Management Team
Head of Department of Paediatrics, University College Cork

Professor Anita Maguire
Vice-President for Research & Innovation, University College Cork

Dr Willard Dere
Senior Vice-President and International Chief Medical Officer of Amgen

Professor Vinny Cahill
Dean of Research & Professor of Computer Science, Trinity College Dublin

Professor Michael Gill
Member of MMI Executive Management Team
Professor of Psychiatry, Trinity College Dublin

Professor Gerry McElvaney
Member of MMI Executive Management Team
Professor of Medicine, Royal College of Surgeons in Ireland

Professor Ray Stallings
Director of Research, Royal College of Surgeons in Ireland
Board of Directors (cont’d)

Professor Larry Egan
Member of MMI Executive Management Team
Chair of Clinical Pharmacology and Head of the Department of Pharmacology and Therapeutics, NUI Galway

Professor Tim O’Brien
Professor of Medicine and Director of the Regenerative Medical Institute, NUI Galway

Professor Mike Clarke
Observer for Queen’s University, Belfast
Chair of Research Methodology and Director of the All-Ireland Hub for Trials Methodology Research at Queen’s University, Belfast

Paul Barry
Company Secretary

Board Members at Dr Ruth Barrington’s retirement reception. Back row (L-R) Professor Tim O’Brien of NUI Galway, Professor Bill Powderly of UCD, Professor Vinnie Cahill of TCD, Professor Michael Gill of TCD and Professor Larry Egan of NUI Galway; and front row (L-R) Dr Mark Watson of MMI, Dr Ruth Barrington and Thomas Lynch, Chair of MMI
VISION: ICRIN aims to develop a national clinical research infrastructure, to harmonise clinical research processes, to connect with European networks, to develop education and training programmes and to support investigators in the conduct of multi-centre clinical and translational studies.

The Irish Clinical Research Infrastructure Network (ICRIN) was created in 2006 by the MMI partners

ICRIN operates as a business unit of Molecular Medicine Ireland with key support from the Health Research Board. As the Irish member of the European Clinical Research Infrastructure Network (ECRIN) it is part of a European-wide effort to build an infrastructure for multi-centre and multi-national clinical trials sponsored by academic institutions and SMEs.

Throughout 2012, ICRIN continued to develop and enhance capacity in clinical and translational research through close engagement with MMI’s partner institutions and associated hospitals, funders, European networks, and the pharmaceutical, diagnostic and medical device industries including academic start-ups. It organised training courses in Good Clinical Practice and published the Clinical Research Training Report which examines the gaps in clinical research training in Ireland and outlines a national curriculum for all clinical research staff. See [http://www.molecularmedicineireland.ie/show/item/1/1918](http://www.molecularmedicineireland.ie/show/item/1/1918)
ICRIN AGM 2012

The 2012 Annual General Meeting and Gala Dinner of the European Clinical Research Infrastructure Network (ECRIN) was hosted by ICRIN in Dublin Castle on 17 May. The event was attended by over 80 representatives from 23 European member countries. Guest of honour, Dr James Reilly TD, Minister for Health, spoke warmly of his commitment to clinical research and particularly of the work of ICRIN and ECRIN in building Europe’s capacity to conduct investigator-led, multi-national clinical trials and their efforts in supporting investment by the lifescience industry.

Workshop on Hospital Approval of Clinical Trials

ICRIN organised a workshop on the Hospital Approval of Clinical Trials in January which provided clarification of the issues and challenges involved in the hospital approval of clinical trials and agreement on the steps required to move forward towards harmonisation of approval in this area. For further details please see http://www.molecularmedicineireland.ie/show/item/1/1765

ICRIN National Clinical Research Seminar

The ICRIN National Clinical Research Seminar took place in Dublin Castle forming part of International Clinical Trial Day celebrations in May. The objective of the seminar was to highlight a sample of projects in which Irish clinical researchers are involved, both nationally and internationally. Speakers included Professor Brian Lawlor, Consultant in Old Age Psychiatry at St James’s Hospital, Professor Christian Ohman, Head of KKS, Düsseldorf, Professor Jacques Demotes, ECRIN Co-ordinator and Dr Anne Cody of the HRB.
ICRIN
Engaging with Industry

The support and services provided by ICRIN’s industry-facing activities are an integral part of a coordinated clinical research infrastructure. ICRIN navigates researchers and industry through the process of clinical engagement and facilitates their access to resources for the conduct of research.

Clinical Trial Liaison Officer - assisting companies to develop and deliver cutting edge research in a safe and regulated environment

Funded by Enterprise Ireland, the purpose of the Clinical Trial Liaison Officer role is to assist Irish researchers, clinicians, small to medium-sized enterprises and multinationals involved in the pharmaceutical, medical device and biotechnology sectors to access clinical resources and navigate the regulatory maze in order to bring products to market.

In the last grant period (April 2011 to October 2012), the CTLO engaged with over 220 researchers and companies, providing advice on the clinical trial process and pre-clinical requirements, and facilitating contacts between companies and researchers, a number of which have resulted in planned clinical investigations.

Promoting Ireland as a location of choice for clinical trials
ICRIN
Focus on Med-Tech Sector

ICRIN with MMI continues to facilitate the development of the medical technology sector including medical devices, diagnostics and pharmaceuticals. The Med-Tech sector is a fast growing area in Ireland, with over 250 companies currently developing and manufacturing medical technologies. During 2012, the CTLO facilitated a number of important seminars and workshops specifically targeted at stakeholders involved in this sector.

Ireland – a location of choice for Medical Technology Clinical Investigations.
An initiative of ICRIN and the Irish Medical Device Association (IMDA), this national forum brought together over 100 world-class health research stakeholders including industry, academia, healthcare providers and government organisations to highlight the key strengths and showcase the Irish clinical research infrastructure that is established to support local and international clinical studies for the med-tech industry.  For further information please see http://www.molecularmedicineireland.ie/show/item/1/1949

An Introduction to Legal and Insurance Requirements for Medical Device Clinical Investigation
This event was held in Enterprise Ireland and provided both information and training on the role and responsibilities of the Sponsor in clinical investigations for medical devices in Ireland. It also explained the different types of insurance cover required for clinical investigations.

Clinical Innovation Awards 2012
The CTLO played a key supporting role in the 2nd Clinical Innovation Awards sponsored by Enterprise Ireland and the Cleveland Clinic. Over 30 highly competitive applications were received from clinicians and healthcare professionals which featured novel medical technologies aimed at fulfilling unmet patient needs.

Pictured right: The overall winner of the Clinical Innovation Awards 2012, Dr Peter Lee, Consultant Anaesthetist at Cork University Hospital, who has developed an improved epidural solution.
ICRIN Education & Training

ICRIN conducted 20 courses on Good Clinical Practice (GCP) between 2009 and 2012, where 420 attendees were trained in the principles and investigator responsibilities of conducting clinical trials to Good Clinical Practice Standards.

Adherence to these standards is a legal requirement for the conduct of clinical trials under the Clinical Trial Directive 2001/EC/20. Attendees of the GCP courses comprised Principal Investigators from MMI’s partner institutions, research nurses, pharmacists, bench scientists and representatives of the pharmaceutical and medical device industries.

Attendee evaluation of ICRIN GCP courses

Feedback received from the courses was very positive with 90% of attendees rating the overall experience as excellent or very good. This feedback has been helpful in improving and refining different aspects of the course and has led specifically to the inclusion of workshops, revision exercises and quizzes with the aim of increasing participant engagement.

In addition to GCP training, the ICRIN team contributed to the RCSI Certificate in Research Nursing, the NUIG Masters in Clinical Research, the UCD Postgraduate Programme in Clinical & Translational Research and the TCD Masters in Pharmaceutical Medicine.

“It is great to reinforce GCP”

“The workshops are an excellent idea”

“Extremely helpful and informative”

“This is my 3rd time on the course and each time I learn something new”

Average for overall Experience

- Excellent: 51%
- Very Good: 39%
- Good: 8%
- Need Improvement: 0%
- Fair: 2%
- Not Good: 0%

0%
In April the Irish Cancer Society awarded funding to Molecular Medicine Ireland to provide research coordination services to the National Prostate Cancer Research Group (NPCRG). MMI’s Programme Officer for Translational Research, Dr Suzanne Bracken, was subsequently appointed Research Co-ordinator for the NPCRG to co-ordinate, support and promote collaborative translational and clinical research activities relating to prostate cancer.

The NPCRG was formed in 2012 and is a multidisciplinary body whose objective is to coordinate and integrate the prostate cancer research activities in Ireland. Chaired by Professor William Watson of UCD, it brings together clinicians, scientists, epidemiologists, health economists, statisticians, research nurses and allied healthcare professional, and represents the Prostate Cancer Research Consortium (PCRC), National Cancer Registry, All Ireland Cooperative Clinical Research Group (ICORG), Prostate Cancer Institute as well as other academic and clinical research groups. Researchers from Queen’s University Belfast are also involved in the group.

In May, ICRIN hosted the Tenth Annual Cardiovascular Biomarkers Symposium (CMOD) and the Irish Biomarker Network Seminar which brought together up to 100 cardiovascular researchers from North America and Europe.

See [http://www.molecularmedicineireland.ie/show/item/1/1950](http://www.molecularmedicineireland.ie/show/item/1/1950)

---

**ICRIN hosts 10th Annual CMOD Conference**

In May, ICRIN hosted the Tenth Annual Cardiovascular Biomarkers Symposium (CMOD) and the Irish Biomarker Network Seminar which brought together up to 100 cardiovascular researchers from North America and Europe.

See [http://www.molecularmedicineireland.ie/show/item/1/1950](http://www.molecularmedicineireland.ie/show/item/1/1950)
The Wellcome Trust – HRB Dublin Centre for Clinical Research

VISION: Transformation of clinical research in Dublin through the development of physical, human resource and administrative infrastructure for safe, ethical and excellent patient-focused research

The DCCR programme provides the infrastructure – the physical space, facilities and trained staff – needed to support collaborative clinical research studies across Dublin involving the TCD, UCD and RCSI Medical Schools, their associated teaching hospitals and Molecular Medicine Ireland (MMI). The DCCR Network includes research activities taking place at RCSI Clinical Research Centre at Beaumont Hospital, the UCD Clinical Research Centre at Mater Misericordiae University Hospital and St. Vincent’s University Hospital and the new clinical research centre at St. James’s Hospital when opened in May 2013.

Change of leadership

In 2012, Professor Michael Gill took over as Principal Investigator of the DCCR on the departure of Professor Dermot Kelleher, the former Principal Investigator (PI) and lead applicant. He was also appointed Director of the Wellcome Trust - HRB CRF at St James’s Hospital. Professor Patrick Murray replaced Professor Kelleher as Clinical Director of the DCCR Network, joining Professor Dermot Kenny who is Associate Director of the Network.
New Clinical Research Facility at St James’s Hospital

An important component of the DCCR programme is the construction of the Wellcome Trust – HRB Clinical Research Facility at St. James’s Hospital, which proceeded throughout 2012 and will be opened by An Taoiseach on 30 May 2013.

During 2012, TCD secured a funding extension to December 2017 from the Health Research Board (HRB) to operate the state-of-the-art clinical research facility within St. James’s Hospital. The CRF is jointly governed by St. James’s Hospital and TCD and will function like other units and departments within the hospital.

The CRF will be used to conduct a range of studies including experimental medicine and early and late phase clinical trials of medicinal products and medical devices as well as studies by allied health professionals including bioengineering, nutrition, psychology, pharmacy and physiotherapy. It will also host a programme for advanced therapeutics in the areas of cell based therapeutics and molecular therapeutics.
The DCCR Network enables the conduct of multi-centre clinical research studies at RCSI Clinical Research Centre at Beaumont Hospital, the UCD Clinical Research Centre at Mater Misericordiae University Hospital and St. Vincent’s University Hospital, and the new clinical research centre at St. James’s Hospital when opened in May 2013. Scientists and clinicians with similar research interests working within these CRCs come together to agree on research activity that is best conducted within a large group rather than in isolation.

Over the 2008-2012 period, almost 4,000 patients have been recruited to DCCR Network studies. The table below illustrates the studies under way within the DCCR Network and the sponsoring disease groups.

The formation of clinical interest or disease groups aims to improve treatment, prevention and/or knowledge of a disease in a patient group of population.

<table>
<thead>
<tr>
<th>Group</th>
<th>Chair</th>
<th>Sites Represented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes &amp; Metabolism</td>
<td>Ronan Canavan and Marie-Louise Healy</td>
<td>✓✓✓✓✓</td>
</tr>
<tr>
<td>Renal and Systemic Autoimmune</td>
<td>Mark Little, Pat Murray &amp; Denise Sadlier</td>
<td>✓X✓✓</td>
</tr>
<tr>
<td>Diseases</td>
<td></td>
<td>✓X✓✓</td>
</tr>
<tr>
<td>Gastrointestinal Disease</td>
<td>Ross McManus</td>
<td>✓X✓✓</td>
</tr>
<tr>
<td>Neuropsychiatry</td>
<td>Michael Gill</td>
<td>✓X✓✓</td>
</tr>
<tr>
<td>Skin Disease</td>
<td>Brian Kirby &amp; Alan Irvine</td>
<td>✓✓✓✓✓</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Michael Keane</td>
<td>✓X✓✓</td>
</tr>
<tr>
<td>Cardiovascular (HF – NCSRN)</td>
<td>Niall Mahon</td>
<td>✓X✓✓</td>
</tr>
<tr>
<td>Stroke</td>
<td>Peter Kelly</td>
<td>✓X✓✓</td>
</tr>
<tr>
<td>Hepatology (ICORN)</td>
<td>Suzanne Norris</td>
<td>✓X✓✓</td>
</tr>
<tr>
<td>Prostate Cancer</td>
<td>Bill Watson</td>
<td>✓X✓✓</td>
</tr>
<tr>
<td>Infectious Diseases/TB</td>
<td>Colm Bergin</td>
<td>✓X✓✓</td>
</tr>
<tr>
<td>Neurodegeneration</td>
<td>Orla Hardiman</td>
<td>✓X✓✓</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>David Keegan</td>
<td>✓X✓✓</td>
</tr>
</tbody>
</table>

HOSPITAL ABBREVIATIONS:  JCM – James Connolly Memorial  /  Mater – Mater Misericordiae University Hospital  /  SJH – St James’s Hospital  /  SVUH – St Vincent’s University Hospital  
RVEE – Royal Victoria Eye and Ear Hospital
Certificate Course in Research Nursing:

A key component of DCCR training is the RCSI School of Nursing Certificate Course in Research Nursing, which achieved its 4th intake of nurses this year with 16 students enrolling from across the country.

Disease Group Seminar:

DCCR held a Disease Group Seminar on the 22 November in RCSI, which acknowledged the importance of research nursing and IT support provided through the DCCR Network. Almost 4,000 patients had been recruited to DCCR Network Studies by the end of 2012 involving 13 various disease groups. The Seminar featured presentations from PIs of a selection of disease groups active within the DCCR Network which focused on how the disease groups were formed and the supports and structures required for their success.

See [http://www.molecularmedicineireland.ie/show/item/1/1943](http://www.molecularmedicineireland.ie/show/item/1/1943)

<table>
<thead>
<tr>
<th>Group</th>
<th>Funders</th>
<th>Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes &amp; Metabolism</td>
<td>European Association for the Study of Diabetes</td>
<td>€100K</td>
</tr>
<tr>
<td>Renal &amp; Systemic Autoimmune</td>
<td>SFI Grants, HRB. Scleroderma Society of Ireland</td>
<td>€2.15M</td>
</tr>
<tr>
<td>Gastrointestinal Disease</td>
<td>SFI Grants, Oesophageal Cancer Fund, Irish Cancer Society</td>
<td>€1.14M</td>
</tr>
<tr>
<td>Neuropsychiatry</td>
<td>NIMH, HRB, SFI</td>
<td>€1.2M</td>
</tr>
<tr>
<td>Skin Disease</td>
<td>Wellcome Trust</td>
<td>€480K</td>
</tr>
<tr>
<td>Respiratory</td>
<td>HRB</td>
<td>€280K</td>
</tr>
<tr>
<td>Cardiovascular (IHF – NCSRN)</td>
<td>IHF</td>
<td>€100K</td>
</tr>
<tr>
<td>Stroke</td>
<td>IHF HRB</td>
<td>€290K</td>
</tr>
<tr>
<td>Hepatology (ICORN)</td>
<td>HSE</td>
<td>€250K</td>
</tr>
<tr>
<td>Prostate Cancer</td>
<td>Irish Cancer Society, HRB Prostate Cancer Foundation (US)</td>
<td>€3.68M</td>
</tr>
<tr>
<td>Infectious Diseases/TB</td>
<td>HSE Health Surveillance Branch, HRB</td>
<td>€1.74M</td>
</tr>
<tr>
<td>Neurodegeneration</td>
<td>Lundbeck Irish Institute of Clinical Neuroscience</td>
<td>€100K</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>HRB, Fighting Blindness</td>
<td>€200K</td>
</tr>
</tbody>
</table>

Since 2008 DCCR disease groups have attracted significant funding for their clinical research programmes. This table illustrates grant income & funding associated with these groups.

Pictured at the DCCR Disease Group Seminar in November were speakers (l to r): Dr Maria Meehan of Fighting Blindness, Professor Pat Murray, Director of DCCR Network, Professor Dermot Kenny, Associate Director of DCCR Network, Jeremy Towns of MMI, Professor Mark Little of Tallaght Hospital and Professor Bill Watson of UCD.
The Dublin Centre for Clinical Research (DCCR) successfully hosted the 8th Annual UK Clinical Research Facility Network (UKCRF) Conference in Trinity College Dublin in July. The conference attracted the highest number of attendees (over 260 delegates) and poster entries (78) to date and was opened by Professor Dermot Kelleher, formerly of the DCCR and Trinity College. A highlight of the conference was the plenary session opened by Dr James Reilly TD, Minister for Health, and co-chaired by Enda Connolly (CEO of the Health Research Board), and Professor Des Fitzgerald (Vice President for Research at UCD). This featured a comprehensive presentation of the different clinical research systems found across the England, Scotland and Ireland. Another highlight was the keynote address by Professor Dame Sally Davies, Chief Medical Officer and Director of the National Institute for Health Research on the subject of building sustainable clinical research systems.

For further information on this conference visit: http://www.molecular-medicineireland.ie/show/item/1/1840
In January 2012, the DCCR hosted placements for ten scholars participating in the MMI Clinical and Translational Research Scholars Programme as part of their Clinical Research Facility rotation. The scholars who were based at UCD and TCD experienced a range of clinical research activities that included shadowing DCCR research nurses in clinical settings and attending a series of lectures on clinical research topics. They also gained an insight into how patients are recruited to studies and how the samples and information collected are used by scientists in the laboratory. The rotation was concluded with a session supported by Fighting Blindness (www.fightingblindness.ie) where the scholars spent an afternoon gaining a valuable appreciation of the role of research charities in translational research. This featured meeting a patient (see photo above) who has had direct experience of participating in an interventional research study.

See http://www.molecularmedicineireland.ie/show/item/1/1768

“Witnessing the arthroscopy gave me a real appreciation for the patient role in clinical research as did meeting with a patient who had taken part in a clinical trial for drug therapy for a rare retinal disease.”

MMI Clinical and Translational Research Scholar
Aspirin Compliance Study

658 patients from across Ireland have been recruited to a study evaluating the effectiveness of Aspirin in patients with stable coronary artery disease. It is the first study of the emergent National Cardiovascular and Stroke Research Network (NCSRN Ireland), an Irish Heart Foundation initiative, and it is being conducted in partnership with the national clinical research facilities. The DCCR is supporting the study at Beaumont, the Mater, St. James’s, St Vincent’s and Tallaght hospitals. The Cork CRF is supporting the study at Cork University Hospital and at Mercy University Hospital Cork and the Galway CRF is supporting the study at University Hospital Galway.

The DCCR has recruited 75% of all study patients to date and has provided vital ICT-eCRF solutions for real time data capture and review. The DCCR has worked in partnership with NCSRN Ireland, actively supporting its quality management programme. The study is led by Professor Dermot Kenny, Professor of Cardiovascular Biology at the RCSI and by Dr Niall Mahon, Consultant Cardiologist at the Mater and NCSRN Ireland Group Chair.

INCA-Inhaler Compliance Assessment Study

The DCCR is conducting a study using an inhaler tracking device in patients with chronic obstructive pulmonary disease (COPD) and asthma. Known as the INCA (Inhaler Compliance Assessment), the study aims to discover whether providing feedback to patients from a device that records when and how well a patient uses an inhaler will lead to:

1. Improved compliance with prescribed inhaler use
2. Improved technique of inhaler use
3. Reduction in poor health related outcomes
4. Reduction in use of rescue inhalers

The INCA device and associated software was designed and developed by bioengineers at TCD and RCSI with funding provided by Enterprise Ireland. The study began recruiting patients at Beaumont and St Vincent’s hospitals in January 2010 and St James’s Hospital will start patient recruitment in January 2013. A total of 200 patients will participate in the study which is due to conclude in December 2013. Early results reveal that there is an improvement in patient outcomes.
2012 Publications

- Identification of 15 new psoriasis susceptibility loci highlights the role of innate immunity, Nature Genetics, November, 2012
- Common variants at the MHC locus and at chromosome 16q24.1 predispose to Barrett’s esophagus, Nature Genetics, September, 2012
Molecular Medicine Ireland works with staff in its partner institutions to develop, win funding for, and deliver innovative collaborative education and training programmes.

MMI is the coordination hub for cross-institutional delivery of structured PhD programmes in clinical and translational research and for continuing professional development short courses. MMI works with industry in all aspects of education and training.

Short course attendances breakdown since 2003 by position

- PhD Students: 1908
- MSc Students: 515
- Postdoctoral Staff: 159
- Principal Investigators: 141
- Clinician Staff/Research Fellow/MND Students: 183
- Technicians/Research Assistants: 472
- Other: 255

Students recruited to MMI Structured PhD programmes; breakdown by institution since 2008

- NUI Galway: 8
- DCU: 13
- TCD: 12
- WIT: 10
- WIT: 5

Total Short Course Attendees: 3633

Total PhD Scholars/Fellows: 48
Education & Training
Clinical & Translational Research Scholars Programme

The CTRSP develops graduates with knowledge and skills to pursue disease-focused research and bridge gaps between basic scientists, clinical scientists and industry.

The innovative 4-year CTRSP comprises an experience-gaining first year during which MMI Scholars complete a variety of education modules and undertake placements in academic research groups, in clinical research facilities and with a variety of industry partners and the Irish Medicines Board. These experiences equip scholars to select and pursue their preferred PhD project in the remaining 3 years, with industry mentors continuing to support the students in developing transferable skills and a competitive CV.

The MMI CTRSP began in October 2011 with an intake of 20 Scholars funded through PRTLI Cycle 5. There was a subsequent intake of 5 Scholars in 2012.

The CTRSP scholarships awarded this year were supported internally by each university.

MMI Clinical & Translational Research Scholars Programme - Timeline

<table>
<thead>
<tr>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3</th>
<th>YEAR 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2011</td>
<td>October 2012</td>
<td>October 2013</td>
<td>October 2014</td>
</tr>
</tbody>
</table>

- **Select PhD project**
- **Core Education Modules**
  - Academic Lab, Industry and Clinical Research Facility Placements
  - Specialist Modules
- **Online Education Modules**
  - PhD Project
- **Annual Scientific Meeting**
- **PhD Completed**
In 2012, the first intake of 20 MMI Scholars continued Year 1 of this 4-year structured PhD programme by participating in taught modules in UCC and NUI Galway and placements in academic research labs, clinical research facilities and in Industry. Scholars selected their PhD projects in areas including allergic conditions, breast cancer, inflammatory bowel disease, prostate cancer, medical device development and diabetic kidney disease.

Following a call which attracted 100 applications and a significant interest from overseas, emphasising the international reach of the programme, five Scholarships were awarded in a second intake to the CTRSP. The five successful candidates (two based at NUI Galway, two at UCC, one at TCD) began the programme in October 2012.

Core taught modules for the second intake were held in UCD and TCD in October. The group also completed their first academic lab placement; over 20 projects were available in areas including immunovirology of hepatitis C, development of novel stem cell therapies, and identification of genetic mutations in schizophrenia.
Education & Training

Industry Highlight

The CTRSP is developed with and includes significant involvement of industry partners.

In 2012, 27 organisations offered a variety of 10-15 week placement experiences in the various areas of bringing drugs and devices from concept to patient and market. Placement providers were distributed across the enterprise sector with a translational medicine/technology focus, including biomedical start-ups, medical device companies, clinical research organisations and multinational pharmaceutical companies.

Industry placement supervisors will act as external mentors to each student during years 2-4 of their PhD. This is to advise on career development, transferable skills and demonstrating the relevance of their studies to potential industry employers.

“Not only do I have an insight into the industry but I have formed many new contacts”

“I have always been interested in pursuing a career in Industry following my PhD. Therefore this placement gave me a strong insight into what my future career will involve and indeed the skills I will require to be competitive in the job market”
The MMI Clinician Scientist Fellowship Programme, which began in 2008, increased its tally of successful graduates with a total of 15 PhDs awarded by the end of 2012. MMI Clinician Scientist Fellows have to date authored over 100 publications. The full list of publications is available at http://www.molecularmedicineireland.ie/csfp_pub.

Depending on the stage reached in their postgraduate medical studies, graduates have returned to medical training, taken consultant positions, or accepted fellowships in the US to further their research experience.

Positions held by CSFP alumni include:

- Assistant Professor, Department of Anesthesia and Critical Care, St Michael’s Hospital, Toronto, Canada
- Research Fellow in Medicine, Massachusetts General Hospital, US
- Haematology Consultant, Mater Misericordiae University Hospital
- Clinical Fellow (Cardiovascular Medicine) & Advanced Multi-Modality Imaging Fellowship, Cleveland Clinic, US
- International Fellow in Endocrine Surgery at the Hôpital de la Timone, Marseille, France
- Advanced Fellowship in Gastrointestinal Motility, Mayo Clinic, US
In 2012 MMI Clinician Scientist Fellow Dr Sanjay Chotirmall and co-workers at RCSI published a study which represents a major breakthrough in understanding why females with cystic fibrosis do worse than males. The study is the first to show that the female hormone oestrogen promotes the presence of a particular form of bacteria which results in more severe symptoms for female cystic fibrosis patients.

**Education & Training**

**Short Courses**

MMI Courses and Workshops are developed and delivered by faculty from multiple institutions, including international keynote speakers and industry staff. In 2012, MMI offered the seventh run of our collaboration with Pfizer, ‘Molecules to Medicines: How Biopharma Delivers’; the fifth run of Human Disease Genomics course (including a collaboration with the European Bioinformatics Institute for the follow-up workshop. The year ended with another successful run of ‘Techniques & Strategies in Molecular Medicine’. Thank you to our sponsors for their support of MMI Short Courses in 2012:

### Course / Workshop Title

<table>
<thead>
<tr>
<th>Course / Workshop Title</th>
<th>Dates</th>
<th>Venue</th>
<th>Attendees*</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMI Course - Human Disease Genomics: SNPs, GWAS and Next-Gen Sequencing – Lecture Course</td>
<td>27 Jun 2012</td>
<td>TCD Biomedical Sciences Institute</td>
<td>70</td>
</tr>
<tr>
<td>Workshop - Human Disease Genomics: SNPs, GWAS and Next-Gen Sequencing – EBI Ensembl Workshop</td>
<td>28 Jun 2012</td>
<td>TCD Institute of Molecular Medicine</td>
<td>18</td>
</tr>
<tr>
<td>MMI/Pfizer Course - Molecules to Medicines: How Biopharma Delivers</td>
<td>20 Nov 2012</td>
<td>Royal College of Surgeons in Ireland</td>
<td>64</td>
</tr>
<tr>
<td>MMI/Pfizer Workshop - Molecules to Medicines: How Biopharma Delivers</td>
<td>21 Nov 2012</td>
<td>MMI Directorate offices</td>
<td>20</td>
</tr>
<tr>
<td>MMI Course Techniques &amp; Strategies in Molecular Medicine</td>
<td>12-13 Dec 2012</td>
<td>Royal College of Surgeons in Ireland</td>
<td>80</td>
</tr>
</tbody>
</table>

* (1 or more sessions)
The MMI Human Disease Genomics course introduced researchers to key strategic considerations in designing and performing gene-mapping studies. Professor Evan Eichler (Howard Hughes Medical Institute, Department of Genome Sciences, University of Washington - pictured below) delivered the Keynote Address on 'New Mutations and Neurocognitive Disease'.

A one-day practical workshop, delivered by the European Bioinformatics Institute, complemented the lecture material by providing guided hands-on experience in the use of the Ensembl genome browser.

Attendances breakdown for 2012 (Total=252): Institutional Affiliation

- National University of Ireland Galway: 26
- Royal College of Surgeons in Ireland: 14
- Trinity College Dublin: 93
- University College Cork: 56
- University College Dublin: 13
- Other: 50
Communications

Our Traffic

Visitors

+29.15%
27,457 visitors

New Visitor  Returning Visitor

Pageviews

Average Time spent

203,895
00:04:17

MMI Website, an interactive platform for collaborative research

The MMI Website provides our visitors with up-to-date information on MMI activities, news, events and career opportunities. MMI website users can register and maintain an up-to-date research profile, as well as apply for MMI courses and workshops. Collaborative groups working under the auspices of MMI can communicate and share documents via dedicated secure areas on the website. Dedicated areas enable easy access to key collaborative resources in clinical and translational research.

MMI On-line Newsletter

The MMI Newsletter features quarterly updates on all MMI activities. Over 3000 users received the newsletter in 2012.
# Financial Statement

**Income & Expenditure Account**  
Year Ended 30 September 2012

## Income

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course fees</td>
<td>14,877</td>
<td>13,600</td>
</tr>
<tr>
<td>Partners</td>
<td>517,755</td>
<td>520,645</td>
</tr>
<tr>
<td>Grants</td>
<td>633,917</td>
<td>617,009</td>
</tr>
<tr>
<td><strong>TOTAL INCOME</strong></td>
<td><strong>1,166,559</strong></td>
<td><strong>1,151,254</strong></td>
</tr>
</tbody>
</table>

## Expenditure

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel costs</td>
<td>887,550</td>
<td>883,931</td>
</tr>
<tr>
<td>Advertising and public relations</td>
<td>4,119</td>
<td>2,805</td>
</tr>
<tr>
<td>Professional and consultancy fees</td>
<td>40,438</td>
<td>37,222</td>
</tr>
<tr>
<td>Conferences and training</td>
<td>32,253</td>
<td>33,475</td>
</tr>
<tr>
<td>Rent and rates</td>
<td>94,899</td>
<td>94,327</td>
</tr>
<tr>
<td>Building – repairs, cleaning and canteen</td>
<td>7,531</td>
<td>6,044</td>
</tr>
<tr>
<td>Insurance</td>
<td>19,626</td>
<td>14,962</td>
</tr>
<tr>
<td>Communications : telephone, fax and postage</td>
<td>-2,840</td>
<td>15,135</td>
</tr>
<tr>
<td>Website design and maintenance</td>
<td>41,112</td>
<td>20,360</td>
</tr>
<tr>
<td>Printing and stationery</td>
<td>5,176</td>
<td>6,543</td>
</tr>
<tr>
<td>Travel and subsistence</td>
<td>20,300</td>
<td>19,955</td>
</tr>
<tr>
<td>Bank interest and charges</td>
<td>687</td>
<td>1,194</td>
</tr>
<tr>
<td><strong>Depreciation:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Fixtures and fittings</td>
<td>629</td>
<td>773</td>
</tr>
<tr>
<td>- Computer equipment</td>
<td>3,877</td>
<td>2,713</td>
</tr>
<tr>
<td>- Office equipment</td>
<td>132</td>
<td>655</td>
</tr>
<tr>
<td>Auditors’ remuneration</td>
<td>11,070</td>
<td>11,160</td>
</tr>
<tr>
<td><strong>TOTAL EXPENDITURE</strong></td>
<td><strong>1,166,559</strong></td>
<td><strong>1,151,254</strong></td>
</tr>
</tbody>
</table>

**Profit / Loss for the year**  

- -