Molecular Medicine Ireland Clinician Scientist Fellowship Programme Structured Training

Schedule for Period 16 September – 26 September 2008

**Tuesday 16 September**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</table>
| 0930 - 1300 | **Bioinformatics workshop**  
Venue: Trinity Centre for Health Sciences, St James’s Hospital |
| 1300 – 1400 | Lunch                                                                |
| 1400 – 1515 | Dr Ross McManus (TCD)  
*Introduction to Molecular Biology: DNA Replication and Recombination* |
| 1515 – 1530 | Tea/coffee                                                           |
| 1530 – 1645 | Dr Ross McManus (TCD)  
*Mutation and Repair and Human Disease* |

**The Biology Behind the Disease**  
Venue: Durkan Lecture Theatre, TCD Institute of Molecular Medicine, St James’s Hospital

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<tbody>
<tr>
<td>1300 – 1400</td>
<td>Lunch</td>
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</table>
| 1400 – 1500 | Dr Aideen Long (TCD)  
*Overview of cell signalling mechanisms* |
| 1500 – 1600 | Dr Aideen Long (TCD)  
*Cell signalling and cancer* |
| 1600 – 1615 | Tea/coffee                                                           |
| 1615 – 1715 | Dr Yuri Volkov (TCD)  
*The molecular engines, tyres and brakes for leukocyte locomotion* |

**Wednesday 17 September**

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<tr>
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| 0930 - 1300 | **Bioinformatics workshop**  
Venue: Trinity Centre for Health Sciences, St James’s Hospital |
| 1300 – 1400 | Lunch                                                                |
| 1400 – 1500 | Dr Aideen Long (TCD)  
*Overview of cell signalling mechanisms* |
| 1500 – 1600 | Dr Aideen Long (TCD)  
*Cell signalling and cancer* |
| 1600 – 1615 | Tea/coffee                                                           |
| 1615 – 1715 | Dr Yuri Volkov (TCD)  
*The molecular engines, tyres and brakes for leukocyte locomotion* |
### Thursday 18 September

**Clinic Scientist Keynote Lecture**  
Venue: Durkan Lecture Theatre, TCD Institute of Molecular Medicine, St James's Hospital  
0800 – 0900  
Professor Timothy O’Brien, Professor and Head of Medicine, NUI Galway, Director of the Regenerative Medicine Institute (REMEDI)

**Bioinformatics workshop**  
Venue: Trinity Centre for Health Sciences, St James's Hospital  
0930 - 1300  
**Bioinformatics workshop - Session 3**  
Dr Tony Ryan (TCD)

**The Biology Behind the Disease**  
Venue: Durkan Lecture Theatre, TCD Institute of Molecular Medicine, St James's Hospital  
1300 – 1400  
Lunch  
1400 – 1500  
Dr Henry Windle (TCD)  
*Infectious diseases: the biology of the host-pathogen interaction*  
1500 – 1600  
Dr Mark Lawler (TCD)  
*Control of gene expression and its relevance to human disease*  
1600 – 1615  
Tea/coffee  
1615 – 1715  
Dr Mark Lawler (TCD)  
*Genetics, Molecular Medicine and cancer*

### Friday 19 September

**Animal Models of Disease. Relevance to study of human pathophysiology**  
Venue: Conway Lecture Theatre, UCD Conway Institute, UCD, Belfield, Dublin 4  
0900 – 0915  
Tea/coffee  
0915 – 0945  
Professor Ciaran Regan, UCD  
*Developmental emergence of disease: Modelling mechanisms in animals*  
0945 – 1015  
Professor Catherine Godson,  
*From Mice and Men to mechanisms of disease in microvascular complications of diabetes*  
1015 – 1045  
Professor Michael Keane, UCD and St Vincent’s University Hospital  
*Animal models of pulmonary disease*  
1045 – 1115  
Tea/coffee
<table>
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<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>1115 – 1145</td>
<td>Dr Ollie Blacque, UCD</td>
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<td></td>
<td><em>Using tiny worms (C. elegans) to investigate the molecular basis of human disease. Absurd? Certainly not!</em></td>
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<tr>
<td>1145 – 1215</td>
<td>Dr Breandan Kennedy, UCD</td>
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<td><em>Using tropical fish to understand colour vision</em></td>
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<tr>
<td>1215 – 1330</td>
<td>Lunch and networking with speakers</td>
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</tbody>
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**Core Technology**  
Venue: Conway Lecture Theatre, UCD Conway Institute, UCD, Belfield, Dublin 4

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>1330</td>
<td>Group splits into 4 small groups and visits core technology facilities:</td>
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<tr>
<td></td>
<td>• Mass spectrometry for proteomics hosted by Professor Giuliano Elia, UCD</td>
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<td>• Confocal Imaging hosted by Professor Dimitri Scholz, UCD</td>
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<td></td>
<td>• SPF facility and in vivo imaging hosted by Colin Travis and Professor Liam Gallagher, UCD</td>
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<td>• High throughput genomics hosted by Professor Brendan Loftus, UCD</td>
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<tr>
<td>1530</td>
<td>30 mins at each facility</td>
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<td></td>
<td>Reassemble for tea and the entire group will then visit the Electron Microscopy suite hosted by Dr David Cottell</td>
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### Monday 22 September

**Information Retrieval Workshop**  
Venue: Mercer Library, RCSI

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<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>1000 – 1130</td>
<td>Workshop delivered by RCSI library staff</td>
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**Clinician Scientist Keynote Lecture**  
Venue: Pharmacy Tutorial Room (Ground Floor, York House), RCSI

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>1200 – 1300</td>
<td>Professor Dermot Kenny, Associate Professor, Director Molecular &amp; Cellular Therapeutics, RCSI</td>
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<tr>
<td>1300 – 1345</td>
<td>Lunch</td>
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<tr>
<td>1345 – 1430</td>
<td>Tour of RCSI</td>
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### Tuesday 23 September

**The Biology behind the Disease (Self directed learning)**  
Venue: Durkan Lecture Theatre, TCD Institute of Molecular Medicine, St James’s Hospital

<table>
<thead>
<tr>
<th>Session 1</th>
<th>Time</th>
<th>Session Details</th>
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<tbody>
<tr>
<td>0930 – 1000</td>
<td>Coffee</td>
<td></td>
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</table>
| 1000 – 1100 | Dr Sanjay Chotirmall / Dr David Prichard  
Tuberculosis & Toll-like Receptors: Innate Immunity and Reactivation |
| 1100 – 1200 | Dr Ruth Morrell / Dr Mazen Al-alawi  
The Road to Cure for Chronic Myeloid Leukaemia |
| 1200 – 1300 | Lunch |

**Session 2**

<table>
<thead>
<tr>
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| 1300 – 1400 | Dr Aoife Lowery / Dr Niall Conlon  
Familial cold autoinflammatory syndrome |
| 1400 – 1500 | Dr Oliver Schubert /Dr Gerard Curley  
Regulation of osteoclast activity in osteoporosis |
| 1500 – 1515 | Coffee |
| 1515 – 1615 | Dr Eoin Feeney / Dr Damian McCartan  
Hepatocellular Carcinoma and Epidermal Growth Factor |

### Wednesday 24 September

**The Biology behind the Disease (Self directed learning)**  
Venue: Durkan Lecture Theatre, TCD Institute of Molecular Medicine, St James’s Hospital

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<tr>
<th>Session 3</th>
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<tbody>
<tr>
<td>0930 – 1000</td>
<td>Coffee</td>
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</table>
| 1000 – 1100 | Dr Patrick Collier / Dr Mark Coyne  
The myofibroblast…when good cells go bad |
| 1100 – 1200 | Dr Jane Sanders / Dr James Ryan  
Huntington’s disease – Molecular pathogenesis and potential therapeutic targets |
| 1200 – 1300 | Lunch |
Clinician Scientist Keynote Lecture
1300 – 1400  Professor Dermot Kelleher, Head of the School of Medicine and Director of the Institute of Molecular Medicine, TCD & St James’s Hospital

Session 4
1400 – 1500  Dr Aidan Ryan / Dr Fionnuala Ni Ainle
*Endothelial dysfunction and the pro-inflammatory state in vascular disease*
1500 – 1515  Coffee
1515 – 1615  Dr John O’Sullivan / Dr Finian O’Brien
*HIV pathogenesis and therapeutic targets*

Thursday 25 September

**Introduction to Project Management in Healthcare and Education**
Venue: Green Room 3, Mercer Hotel, Lower Mercer St, Dublin 2 (beside the RCSI)
0930 – 1630  Introduction to Project Management in Healthcare and Education – Day 1
Luke Feeney, Institute for Leadership & Healthcare Management, RCSI

Friday 26 September

**Introduction to Project Management in Healthcare and Education**
Venue: Green Room 3, Mercer Hotel, Lower Mercer St, Dublin 2 (beside the RCSI)
0930 – 1630  Introduction to Project Management in Healthcare and Education – Day 1
Luke Feeney, Institute for Leadership & Healthcare Management, RCSI

**Structured Training Period 2 Feedback session**
1630 – 1700  Informal feedback
Molecular Medicine Ireland Clinician Scientist Fellowship Programme

Learning objectives of second period of structured training

Bioinformatics workshop
• Be aware of freely available web-based tools and biological databases
• Have an understanding of how nucleic acid and protein sequence data is obtained and analysed
• Understand principles of sequence search and alignment
• Develop skills in utilising online databases and interpreting data and how bioinformatics can be used to solve problems and generate knowledge

The Biology Behind the Disease (Lecture Series)
• understand the concepts and techniques in molecular and cell biology and genetics incuding DNA replication and recombination, mutation and repair, gene expression, cell signaling mechanisms and the biology underlying infectious diseases.

The Biology Behind the Disease (Self-Directed Learning Module)
• Demonstrate critical thinking and communication across the spectrum from the basic molecular biology of cellular processes to the physiological manifestations of disease
• Conduct collaborative investigative work with colleagues based in different institutions
• Critically evaluate a recent published research paper
• Gain experience in presenting research following on from previous Communications workshop

Animal Models of Disease
• Understand the concepts/considerations in the development of animal models for diseases including schizophrenia, diabetes, pulmonary disease
• Understand studies directed at elucidating disease pathogenesis as well as development of therapeutic approaches

Core Technologies
• Have an understanding of the theory behind and application of the current state-of-the-art technology used in biomedical research

Information Retrieval Workshop
• Access the scientific literature on the web and in databases
• Find and evaluate information effectively and efficiently
• Manage the information collected or generated

Introduction to Project Management in Healthcare and Education
• develop knowledge and understanding of best practice in project management and also acquire practical tips and tools of project management which can be applied to your own area of practice