Name, Group Name, Address and Contact Details:
Rebecca Amet
Zisterer Group
Lab 6.14,
School of Biochemistry and Immunology,
Trinity Biomedical Sciences Institute,
Trinity College Dublin, 152-160 Pearse Street,
Dublin 2
Email: ametr@tcd.ie

Research Interests (please use bullet points or keywords):

- Novel anti-cancer therapeutics
- Multiple Myeloma
- B cell malignancies
- Tumour Microenvironment
- Apoptosis
- Autophagy
- Kinase inhibitors
- G-Quadruplex ligands

Current Technologies used:

- Cell Viability assays
- Western Blot
- Flow cytometry

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
Name, Group Name, Address and Contact Details:

Nadine Assmann  
Immunometabolism, Finlay lab  
School of Biochemistry and Immunology  
Trinity Biomedical Sciences Institute  
Trinity College Dublin  
152-160 Pearse Street  
Dublin 2  
Ireland

Research Interests (please use bullet points or keywords):

- Immunometabolism  
- Natural killer cells  
- Metabolism  
- Proteome analysis

Current Technologies used:

- Metabolomics (stable isotope tracing analysis, unlabelled metabolic analysis) with LC-MS/MS and GC-MS  
- Proteomics and proteome analysis  
- Flow cytometry based analysis  
- Western blots  
- Primary cell culture  
- Seahorse Metabolic Flux Analyzer  
- Cytotoxicity assay

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

My expertise lies in the field of metabolomics and proteomics.
Name, Group Name, Address and Contact Details:
Gillian Barber,
Emma Creagh and Jacintha O’Sullivan groups.

Creagh Lab, 6.14,
Trinity Biomedical Sciences Institute,
Trinity College Dublin,
152-160 Pearse street,
D2

Ext: 1855
barberg@tcd.ie

Research Interests (please use bullet points or keywords):

- Investigating the role of the inflammasome and obesity in the progression to oesophageal adenocarcinoma.
  - Stimulating oesophageal cell lines in vitro with adipose conditioned media
  - Comparing patient biopsies in obese/ non-obese Barrett’s. (and OAC if patient biopsies become available.)
  - Examining Caspase-1 expression in the pL2-IL-1beta mouse model.

Current Technologies used:

Western blot, elisa, IHC,

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

- Access to non-cancer, obese adipose tissue.
Name, Group Name, Address and Contact Details:

Dr Martin Barr  
Thoracic Oncology Research Group  
School of Clinical Medicine  
Trinity Translational Medicine Institute  
Trinity Centre for Health Sciences  
St James’s Hospital & TCD

Tel Office: 01-8963620  
Tel Lab: 01-8962134  
Email: mbarr@stjames.ie barrma@tcd.ie

Research Interests (please use bullet points or keywords):

- Translational Biology (Thoracic malignancies such as non-small cell lung cancer & small cell lung cancer)
- Lung tumour hypoxia
- Vascular endothelial growth factor (VEGF) receptor signalling
- Chemoresistance
- MicroRNA profiling and gene signatures as markers of treatment response
- Lung cancer stem cell biology
- Biomarker validation
- Immuno-Oncology
- Lung Cancer Biobanking (matched normal & tumour lung tissue, FFPE, plasma, serum, white blood cells)

Current Technologies used:

- Cell Culture
- PCR
- Western Blotting
- ELISA
- Immunofluorescence/Image Analysis
- Immunohistochemistry
- FACS/Cell Sorting

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

- Potential provision of lung cancer biospecimens from NSCLC patients for collaboration on projects involving PD-1/PDL-1 and other immune-related research & biomarker validation
- Isolation and characterisation of putative cancer stem cells and their role in immuno-oncology
Name, Group Name, Address and Contact Details:

Dr Nollaig Bourke
Ussher Assistant Professor in Inflammageing
710 MISA & TTMI
School of Medicine
Trinity College Dublin
NBOURKE@tcd.ie

Adjunct Research Fellow, Monash University/Hudson Institute of Medical Research, Melbourne, Australia
nollaig.bourke@hudson.org.au

Research Interests (please use bullet points or keywords):

- Type I Interferons
- Ovarian Cancer (pathogenesis and treatments)
- Gynaecological cancers
- Carcinomas
- Innate and adaptive immunology
- Inflammation

Current Technologies used:

- Transcriptomics
- IHC (including tissue arrays and multi-plex IHC)
- Ovarian cancer mouse model (primary and metastatic models)
- Multi-plex immunoassays
- Proliferation, migration and apoptosis assays

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration)

I have recently joined the School of Medicine as the Ussher Assistant Professor in Inflammageing after spending five years as a post-doc in Australia. In Australia, I worked in the lab of Prof Paul Hertzog who characterised a new member of the type I interferon (IFN) family, IFN epsilon (IFNe), as a female reproductive tract (FRT) specific IFN that protects against STIs (Fung et al, Science 2012). We hypothesised that as IFNe, unlike other IFNs, is constitutively expression in FRT epithelium, it may have local anti-tumour effects similar to the anti-tumour effects of other type I IFNs. Our recent studies have revealed that that IFNe expression is lost in women with high-grade serous ovarian cancer, IFNe has strong in vitro effects on cellular proliferation and survival and in vivo, IFNe treatment in a mouse model of ovarian cancer inhibits metastasis.

What we have:
- Access to non-commercially available reagents for studying IFNe in human and mouse
- We have preliminary data to suggest that IFNe is constitutively expressed in epithelial cells at mucosal sites outside of the FRT, yet there has been no work done on looking at IFNe dysregulation or its therapeutic potential related cancers at other mucosal sites.
- Ability to mine datasets for IFN signatures and pathway analysis

Expertise/techniques required:

- Patient cohorts (samples/datasets) for other cancers of mucosal epithelial origin
Name, Group Name, Address and Contact Details:

Dr. Niamh O’Boyle  
Assistant Professor of Pharmaceutical Chemistry  
School of Pharmacy and Pharmaceutical Sciences  
Trinity College Dublin  
Email: oboyenl@tcd.ie

Research Interests (please use bullet points or keywords):

- Anticancer drugs, in particular targeting: tubulin, estrogen receptor, apoptosis  
- Antibody-drug conjugates  
- Immune system: allergy, particularly skin allergy  
- Natural products for medicinal uses

Current Technologies used: Organic synthesis, analytical chemistry, cell culture, western blotting, microscopy, flow cytometry. Skin sensitization using local lymph node assay (LLNA) and KeratinoSens in vitro assay (in collaboration).

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):  
My expertise: drug design, drug safety, drug metabolism, organic chemistry, analytical chemistry, biochemistry  
Expertise required in cancer immunology – potential therapeutic targets
Name, Group Name, Address and Contact Details:

Sarah Case,
Sheedy Lab,
4.11 4th Floor TBSI,
School of Biochemistry & Immunology,
152-160 Pearse Street, Dublin 2

scase@tcd.ie
01 8962450

Research Interests (please use bullet points or keywords):

- Tumour microenvironment
- Tumour associated macrophages
- microRNA
- metabolism

Current Technologies used:

- qPCR
- ELISA
- Co-culture with trans-well inserts
- Western blotting
- MTT
- Antisense technology

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

- Immunometabolism
- In vivo tumour studies
- Flow cytometry
Dr. Melissa Conroy  
Senior Research Fellow  
Tumour Immunology Group  
Department of Surgery,  
Trinity Translational Medicine Institute,  
St. James’s Hospital,  
Dublin 8.  
Phone: +353 1 8963620  
Email: meconroy@tcd.ie

Research Interests (please use bullet points or keywords):

- The chemokine pathways governing inflammation and anti-tumour immune responses  
- Cancer  
- Immunotherapy  
- Obesity-associated disease  
- Liver immunology and liver disease  
- Cachexia and cancer related sarcopenia  
- Identifying the inflammatory pathways governing radiculopathy

Current Technologies used:

- Flow cytometric analysis of surface marker expression, cytokine production, cytotoxicity and proliferation of immune cells from blood, adipose tissue, liver, tumour and cerebral spinal fluid. 
- Secreted inflammatory factor screens in serum, conditioned media and cerebral spinal fluid using multiplex and single plex ELISA  
- Transwell chemotaxis systems

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

- We are currently collaborating with the Max Planck Institute to progress our human studies to pre-clinical models of obesity and to test specific novel compounds acquired from our industry partners in vivo. It would be desirable to conduct future studies on chemokine pathways in cancer with licensed mouse model experts in TBSI.  
- We are elucidating the endocytic pathways through which specific chemokine receptors are internalised and are seeking sophisticated imaging techniques to illustrate our quantitative data.
Name, Group Name, Address and Contact Details:

Emma Creagh,  
Cell Signalling in Cancer and Inflammation,  
Trinity Biomedical Sciences Institute  
ecreagh@tcd.ie  
01-8962539

Research Interests (please use bullet points or keywords):

- Our primary focus is on the functional importance and regulation of inflammatory caspase enzymes, particularly during inflammatory disease and carcinogenesis.

- Specific diseases of interest are Psoriasis, Inflammatory Bowel Disease, Colorectal Cancer, Barrett’s Oesophagus and Oesophageal Cancer.

- Our approach involves the analysis of patient tissue to identify inflammatory diseases where significant correlation between inflammatory caspase activity and disease pathogenesis exist. Murine disease models, ex-vivo tissue and in vitro cell culture experiments facilitate subsequent investigation of the regulatory mechanisms & signalling pathways driving inflammation within the disease context.

- We have several active clinical collaborations within Ireland and Internationally, including St. James’, Beaumont and St. Vincents’ Hospitals in Dublin, Ghent University Hospital, Belgium, Department of General, Visceral and Cancer Surgery University of Cologne (German Centre of Excellence for Surgery of the Esophagus and Stomach), and Brigham and Women’s Hospital, Boston, USA.

Current Technologies used:

- Molecular biology techniques (Western blotting, Immunoprecipitation & protein binding assays, Molecular cloning, protein expression & cell transfection techniques).

- Microscopy & Histology techniques (Confocal microscopy, H&E staining, Immunohistochemistry).

- Murine Disease Models (Colitis – DSS and C. Rodentium models; IMQ-induced Psoriasis; AOM-DSS model of colorectal cancer)

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
Name, Group Name, Address and Contact Details:

<table>
<thead>
<tr>
<th>Derek G. Doherty</th>
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<tbody>
<tr>
<td>Human Cellular Immunology Group</td>
</tr>
<tr>
<td>Room 2.12, Trinity Translational Medicine Institute</td>
</tr>
<tr>
<td>St. James’s Hospital, Dublin</td>
</tr>
<tr>
<td>Tel: 01-8963326</td>
</tr>
<tr>
<td>Mobile: 086-3977084</td>
</tr>
<tr>
<td>Email: <a href="mailto:derek.doherty@tcd.ie">derek.doherty@tcd.ie</a></td>
</tr>
</tbody>
</table>

Research Interests:

- **Leukocyte biology** - Functional studies on human leukocytes with a particular interest in “innate lymphocytes” (natural killer cells, natural killer T cells, γδ T cells, mucosal-associated invariant T cells and innate lymphoid cells), dendritic cells and B cells

- **Innate T cells in cancer** – Roles and treatment potential of innate lymphocytes in patients with cancer – including lung, oesophageal, liver, colorectal cancers and leukaemias

- **Global infectious diseases.** Research programmes on HIV; partner in collaborative studies in Uganda

- **Immunology of the human liver:** The healthy liver as a specialised organ of the immune system; hepatitis B, hepatitis C, hepatic malignancies and autoimmune liver diseases

Current Technologies used:

- T cell purification, activation, culture and expansion

- Assays of lymphocyte function
  - proliferation
  - differentiation
  - cytotoxicity
  - cytokine production,
  - cytokine secretion
  - antibody production

- Flow cytometry

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

We are currently studying the roles of innate T cells and developing innate T cell-based immunotherapies for a number of diseases, including cancers, infectious and autoimmune diseases, and primary immunodeficiencies. We would be keen to apply these investigations to other human diseases, in particular cancers, where innate T cell-based therapies are most advanced. We would need blood and/or tissue samples from patients and matched control subjects and access to clinical and laboratory data and expertise on these patients.
Name, Group Name, Address and Contact Details:

Margaret Dunne,
Dept of Surgery,
TTMI,
SJH

Email: dunnem12@tcd.ie

Research Interests (please use bullet points or keywords):
• Innate T cell function in human health and disease
• Immune prognostic markers in cancer
• Immunotherapy
• Cancer immunology
• GI cancer
• HLA-DR

Current Technologies used:

Flow cytometry, multiplex ELISA, IHC

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

I can offer collaborators expertise in protocols for digestion and flow cytometry analysis of cells from various tissues and tumours from the oesophagus, stomach, small intestine and colon. Similar protocols could be optimised for other tissues, allowing multi-parameter analysis of released cells. This technique allows for high-throughput analysis of cells, which is particularly useful for detection of rare cell populations in tissues (which may be missed by traditional immunohistochemistry techniques) and allows for cells to be isolated by cell sorting for further experimentation.

I would be interested in joining any collaborations involving assessment of immune markers in cancer.
Name, Group Name, Address and Contact Details:

Lydia Dyck  
Lynch lab  
TBSI, Pearse Street  
dyck@tcd.ie  
ext. 3575

Research Interests (please use bullet points or keywords):

- Immunotherapy  
- Immune checkpoints and checkpoint blockade  
- Immunometabolism in the context of cancer  
- Obesity and cancer  
- Role of regulatory T cells in cancer

Current Technologies used:

- Flow cytometry  
- ELISA  
- RT-PCR  
- In vivo tumour models  
- Co-culture assays  
- Primary immune cell cultures

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

- Mouse models for obesity  
- Tumour biopsies from cancer patients  
- Clinical samples from patients on immunotherapy
Name, Group Name, Address and Contact Details:

Dr Jean Fletcher
Translational Immunology
Trinity Biomedical Sciences Institute

Jean.fletcher@tcd.ie
01 896 4437

Research Interests (please use bullet points or keywords):

- Immune regulation in human disease (cancer, autoimmune and inflammatory disease)
- Th17:Treg cell axis
- Metabolic regulation of T cells

Current Technologies used:

- Multi-parameter flow cytometry

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
Dr Darren Fayne,
Senior Research Fellow,
Molecular Design Group,
School of Biochemistry and Immunology,
Trinity Biomedical Sciences Institute,
Trinity College Dublin

E: fayned@tcd.ie; T: 8963527

Sample of ongoing research interests:

- **Oncology**
  - Castration Resistant Prostate Cancer (CRPC). Androgen receptor antagonists. Novel non-LPB MOA to enable treatment of CRPC
  - Lung cancer/sepsis. Macrophage migration inhibitory factor (MIF). Multiple MIF inhibitors demonstrating murine in vivo efficacy against lung cancer and sepsis with Donnelly group
  - Breast cancer/CNS. Estrogen receptor (ER) antagonists. Multiple chemotypes with varied ER alpha/beta selectivity profiles with Meegan group
  - Multiple cancers. Tubulin inhibitors also developed with Meegan group
  - Malignant pleural mesothelioma (MPM). Lead compound series displaying promising in vivo data against this incurable lung cancer

- **Inflammation**
  - Autoimmune/inflammation. IL-17A inhibitors developed with Bill McCormack and Mills group

- **Anti-viral**
  - Vif (Viral infectivity factor). Optimising small molecule Vif-mimetics as potential anti-virals with Nigel Stevenson & Siobhan Gargan

- **Antibiotic**
  - Bacterial infection. Novel Lipoprotein signal peptidase II inhibitors discovered with Caffrey group

- **CNS**
  - PPARγ selective agonist. In vivo PD model neuroprotection against MPTP insult

- Development of novel computational drug design technologies and approaches

Current Technologies used:

- Computational rational drug design
- Cheminformatic, structure-based and ligand-based drug design computational techniques
- R&D novel small molecule modulators of therapeutically relevant proteins
- In-house and industry standard computational design and analysis tools such as MOE, Pipeline Pilot, Discovery Studio and OpenEye software
- 64-core compute server
- BMG PHERAstar multi-plate reader

Areas for potential cross-discipline collaboration:

Looking to collaborate with researchers interested in treating disease through the discovery and/or development of novel small molecules binding to identified biological macromolecules.
Name, Group Name, Address and Contact Details:

Ewelina Flis

Emma Creagh’s Lab
Trinity Biomedical Science Institute, Trinity College Dublin,
152-160 Pearse Street, Dublin 2, D02 R590, Ireland

+353 894511740
eflis@tcd.ie

Research Interests (please use bullet points or keywords):

The role of inflammatory caspases (caspases -1, -4, -5) and TLR 2 in esophageal adenocarcinoma.

Esophageal cancer, oral cancer, inflammatory caspases, esophageal adenocarcinoma cell, TLR2 receptor,

Current Technologies used:

Immunofluorescence staining
Flow cytometry
Cell culture
Western blot
PCR
ELISA

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
<table>
<thead>
<tr>
<th>Name, Group Name, Address and Contact Details:</th>
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<tbody>
<tr>
<td>Cathriona Foley, Lynch Lab, Room 4.22, Trinity Biomedical Sciences Institute, Trinity College, 152-160 Pearse Street, Dublin 2 Eircode D02 R590, Ireland</td>
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<table>
<thead>
<tr>
<th>Research Interests (please use bullet points or keywords):</th>
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<tbody>
<tr>
<td>The potential immunotherapeutic use of gamma deltas in adoptive transfer to boost the immune response against transformed cells</td>
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<tr>
<td>Inhibitory receptor expression</td>
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<td>T cell exhaustion</td>
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<tr>
<td>Cancer</td>
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<td>Obesity</td>
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<th>Current Technologies used:</th>
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<tbody>
<tr>
<td>Next generation sequencing – RNA Seq</td>
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<tr>
<td>Flow Cytometry</td>
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<tr>
<td>Confocal</td>
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<tr>
<td>Image Stream (future)</td>
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<tr>
<th>Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):</th>
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<tbody>
<tr>
<td>Next generation sequencing &amp; RNA-Seq</td>
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</tbody>
</table>
Name, Group Name, Address and Contact Details
Clair Gardiner
NK cell Research Group
School of Biochemistry and Immunology
TBSI

Research Interests (please use bullet points or keywords):
- NK cells in health and disease
- Phenotype, function and metabolism of NK cells
  - primary focus on human

Overall questions:
- Understanding normal NK cell functions
- Understand how dysregulated NK cell functions contribute to the development of cancer, progression of cancer
- How can improve NK cell immunotherapies?

Metabolism:
- How this is regulated in healthy humans?
- How this is dysregulated in cancer?
- How can we use this information therapeutically?

Patients:
- Breast cancer patients – collaboration with John Kennedy
- Neuroblastoma patients – collaboration with Cormac Owens

Current Technologies used:
- Flow cytometry
- Seahorse analysis

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
Dr. Kathy Gately  
Drug Resistance Unit  
Thoracic Oncology Research Group Lab 2.09  
Trinity Translational Medicine Institute  
St. James’s Hospital  
Dublin 8  
Ireland  

Phone: 8963276  
Email: gatelyk@tcd.ie  

<table>
<thead>
<tr>
<th>Research Interests (please use bullet points or keywords):</th>
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<tbody>
<tr>
<td>- PI3K-MTOR, PIM Kinase, PD-L1 Signalling</td>
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<tr>
<td>- Drug Resistance Mechanisms</td>
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<td>- Tumour Heterogeneity</td>
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<tr>
<td>- Biobanking</td>
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<tr>
<td>- Single Cell Sequencing</td>
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<tr>
<td>- Identification &amp; Validation of Prognostic/Predictive Biomarkers and Therapeutic Targets</td>
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<tr>
<td>- The Liquid Biopsy in Cancer Diagnosis and Monitoring Treatment Response</td>
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<table>
<thead>
<tr>
<th>Current Technologies used:</th>
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<tbody>
<tr>
<td>Next Generation Sequencing (DNA &amp; RNA), High Content Screening &amp; Analysis, Confocal Imaging, Immunohistochemistry (IHC), siRNA, miRNA, RQ-PCR, Proteomics, Western Blot, FACS, Ex-vivo tissue culture.</td>
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<thead>
<tr>
<th>Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):</th>
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<tbody>
<tr>
<td>1. PIM kinase signalling and elucidating links to the immune response (Input from the immunology perspective to build on our strong dataset in lung cancer would be an excellent area for cross-discipline collaboration)</td>
</tr>
</tbody>
</table>
Name, Group Name, Address and Contact Details:

Steven Gray, PhD
Senior Clinical Scientist (SJH)
Adjunct Assistant Professor (TCD)
Adjunct Senior Lecturer (DIT)
Thoracic Oncology Research Group
Trinity Translational Medical Institute, Rm 2.27
Trinity Centre for Health Sciences
St James’s Hospital D08 W9RT
Dublin
Ireland
email: sgray@stjames.ie
email2: grayst@tcd.ie
ORCID: 0000-0002-5850-6392

Research Interests (please use bullet points or keywords):

Currently Dr Gray’s research is focussed on:

- Receptor Tyrosine Kinases RTKs as potential therapeutic targets for the treatment of mesothelioma
- Epigenetic mechanisms underpinning drug resistance in lung cancer.
- Targeting Epigenetic Readers, Writers and Erasers for the treatment of Mesothelioma and Thoracic malignancy
- Circulating Tumour Cells
- non-coding RNA repertoires (IncRNAs and circRNAs) in Mesothelioma and Thoracic malignancy.
- The IL-17 axis as a therapeutic target in lung cancer (PMID: 27353429; 23802098; 23116756)
- Low dose epigenetic targeting as an adjunct to enhance/prime cancer immunotherapy

Current Technologies used:

Standard molecular biology techniques
RISH

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

Let’s talk first.
Name, Group Name, Address and Contact Details:

Vincent P. Kelly  
RNA Biology Group  
School of Biochemistry & Immunology  
Trinity Biomedical Sciences Institute  
Tel: +353-1-8963507  
E-mail: kellyvp@tcd.ie

Research Interests (please use bullet points or keywords):

- Drug development  
- Trangenic technologies  
- RNA modification  
- Metabolism  
- Cancer  
- Autoimmunity

Current Technologies used:

Transgenics, animal disease models, FACS, HPLC, cell culture,

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

Over the past few years I have established a transgenic facility here in Trinity College that provides a whole suite of capabilities including IVF, cryopreservation and CRISPR gene modifications; www.transgenics.ie.

In addition to being able to provide customised transgenic animals I would be interested in collaborating with cancer biologists with an interest in gene-editing in the development of new generation immunotherapeutics such as CAR-T cells and checkpoint inhibitors.
Dr Susan Kennedy,
Department of Surgery,
Trinity Translational Medicine Institute,
St. James’s Hospital,
Dublin 8
Ph: 018963620
Email: kennes21@tcd.ie

Research Interests (please use bullet points or keywords):
- Colorectal cancer
- Proteomics
- Mass spectrometry
- Drug commercialisation

Current Technologies used:
Multiplex ELISA, Mass spectrometry, Proteomics, In solution digestion, MED-FASP, IP-MS, Western blot, Flow Cytometry.

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
Mass spectrometry
Name, Group Name, Address and Contact Details:

Dr Niamh Lynam-Lennon,
Department of Surgery,
Trinity Translational Medicine Institute,
Trinity Centre for Health Sciences,
St James’s Hospital
Dublin 8

Research Interests (please use bullet points or keywords):

- Translational Oncology
- Gastrointestinal Cancer
- Radiobiology
- Neoadjuvant Chemoradiation Therapy
- Treatment resistance (radio/chemo resistance)
- Predictive biomarkers of treatment response
- Metabolism
- Cancer Stem Cells
- microRNA
- Complement system

Current Technologies used:

qPCR, ELISA, miRNA/Gene array profiling Flow Cytometry, Irradiation, Clonogenic assay, Metabolic functional assays (Seahorse/fluorescent probes), Gene/miRNA overexpression/knockdown.

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

Profiling tumour-associated macrophages in patient tumours/macrophage chemotaxis assays (Expertise in TAM biology/profiling required from collaborator).
**Dr. Joanne Lysaght**

**Assistant Professor**

**Tumour Immunology Group Lead**

**Course Co-ordinator M.Sc. in Translational Oncology**

**Department of Surgery,**  

**Trinity Translational Medicine Institute,**  

**St. James’s Hospital,**  

**Dublin 8.**  

**Tel:** 01-8964259  

**Email** jlysaght@tcd.ie

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### Research Interests (please use bullet points or keywords):

- Obesity and inflammation
- Oesophageal and GI cancers
- T cell and NK cell anti-tumour immune responses
- Chemokine pathways and T cell trafficking
- Immune checkpoint inhibitors and novel immunotherapies
- Immunotherapy target discovery
- Combination immunotherapies with radiotherapy and chemotherapy
- Inflammatory driven cancer wasting syndromes; cachexia and sarcopenia
- Role of T cells in the development and progression of pre-malignant diseases to cancer.
- Targeting anti-inflammatory therapies using nanoparticles

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### Current Technologies used:

- Primary human tissue culture
- Human tissue digestion
- Flow cytometry
- Chemotaxis assays
- T cell functional assays; proliferation, cytotoxicity, effector functions
- Tumour microenvironment replication; nutrient deprivation, hypoxia, acidosis
- Chemotherapy and radiotherapy treatments
- Multiplex Elisa systems
- PCR

---

### Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

**Techniques required:**

- Confocal imaging of surface and intracellular proteins
- Mass spectroscopy
Name, Group Name, Address and Contact Details:

Stefania Magnano
Daniela Zisterer’s lab
Trinity Biomedical Sciences Institute (TBSI), Trinity College Dublin,
152-160 Pearse Street, Dublin 2, D02 R590, Ireland.

+353 838759164
magnanos@tcd.ie

Research Interests (please use bullet points or keywords):

Pre-clinical evaluation of targeting autophagy for the treatment of OSCC.
Oral Cancer, Autophagy, Apoptosis, Drug resistance, Chemotherapy,

Current Technologies used:

Flow cytometry,
Cell culture,
Western Blot,
Cell viability assay

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
Name, Group Name, Address and Contact Details:

Cara Martin
CERVIVA
Molecular Pathology Research Laboratory
Dept of Histopathology,
The Coombe Women and Infants University Hospital
Dublin 8

Research Interests (please use bullet points or keywords):
- Human Papillomavirus associated cancers
- Cervical pre-cancer and cancer
- Ovarian cancer
- Head and neck cancers
- Anal cancers
- Cancer screening
- Vaccination
- Population health
- Biomarkers for screening
- Biomarkers for disease management
- Disease surveillance

Current Technologies used:

HPV detection technologies, PCR, ISH, immunocytochemistry, NGS,

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
Dr. Leona Mawhinney
Prof. Seamas Donnelly group
TBSI, 152-160 Pearse St, Dublin 2
mawhinln@tcd.ie
018964435

Research Interests (please use bullet points or keywords):

- Macrophage Migration Inhibitory Factor (MIF) Enzymatic Activity and Lung Cancer
- The design of novel small molecular weight anti-inflammatory therapies, with particular focus on the treatment of lung cancer
- Genetic profiling guiding disease diagnosis, prognosis and response to therapy

Current Technologies used:

- PCR
- qPCR
- Enzyme-linked immunosorbent assay
- Western Blotting
- Confocal Microscopy

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
Name, Group Name, Address and Contact Details:

**Tony McElligott**  
*The John Durkan Leukaemia Laboratories*  
Trinity Translational Medicine Institute  
St James’s Hospital  
Dublin 8  
D08 W9RT

Research Interests (please use bullet points or keywords):

- Chronic B cell malignancies, especially chronic lymphocytic leukaemia (CLL) and multiple myeloma
- Homing and trafficking of malignant cells to lymph node and bone marrow microenvironments
- Signalling pathways regulating leukaemic cell survival and migration, esp STAT3 and NOTCH1
- T-cell immunotherapies for CLL and myeloma
- Novel anticancer agents
- NGS and clonal evolution of haematological malignancies
- Immunological properties of umbilical cord blood
- Cellular products for the treatment and management of post allogeneic stem cell transplant viral infections

Current Technologies used:

- In vitro models of tumour microenvironment
- Cell selection and biobanking of haematological malignancies and umbilical cord blood

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

- Novel therapeutic strategies for haematological malignancies, including targeted therapies and immunotherapies
- Biomarker development
- Immune reconstitution and adoptive immunity
Name, Group Name, Address and Contact Details:
Joanna McGouran
McGouran group
TBSI
jmcgoura@tcd.ie

<table>
<thead>
<tr>
<th>Research Interests (please use bullet points or keywords):</th>
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<tbody>
<tr>
<td>• Chemical Biology</td>
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<tr>
<td>• Activity based proteomics</td>
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<tr>
<td>• Chemical probes</td>
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<tr>
<td>• Protein modification</td>
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<tr>
<td>• Oligonucleotide modification</td>
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<tr>
<td>• Deubiquitinating enzymes</td>
</tr>
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<td>• DNA damage repair</td>
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<table>
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<tr>
<th>Current Technologies used:</th>
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<tr>
<td>• Proteomics</td>
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<tr>
<th>Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):</th>
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<tbody>
<tr>
<td>• Enzyme expression and purification</td>
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<tr>
<td>• Unnatural amino-acid incorporation</td>
</tr>
<tr>
<td>• Tissue culture</td>
</tr>
</tbody>
</table>
**Name, Group Name, Address and Contact Details:**

James Mc Keown  
Prof. Meegan, group- Pharmaceutical Chemistry  
School of Pharmacy and Pharmaceutical Sciences  
6th Floor TBSI  
Lab 6.41  
Email: mckeowjp@tcd.ie  
Ext. 2862

**Research Interests (please use bullet points or keywords):**

- Cancer drug discovery & development  
- Biological mechanism elucidation and determination of possible mechanisms of action  
- Molecular and Computer modelling to aid in rationalisation of drug action and targeting  
- Cancer biochemistry (Apoptosis, Cell-cycle analysis, ROS, LDH, Caspase, tubulin, PPAR, etc.)  
- Currently researching CLL (Chronic Lymphocytic Leukaemia) and previously BL (Burkitt’s Lymphoma)

**Current Technologies used:**

NMR  
HRMS  
IR  
Alamar Blue Assays  
MOE molecular modelling software  
Swiss Institute of Bioinformatics resources  
HPLC

**Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):**

- Ex-vivo testing of most promising leads in patient samples  
- Potential testing in other malignancies where similar lead compounds have shown marked activity  
- DNA interaction studies with representative compounds from synthesised libraries  
- Molecular binding assays for targets of interest  
- Confocal microscopy to assess morphological cell changes on treatment with lead drugs
### Research Interests (please use bullet points or keywords):

1. **Development of Alternatively Folded, Selectively Tumorcidal Protein-Fatty Acid Complexes**  
   (Currently in Phase I/II bladder cancer trials)

   HAMLET and its analogues are exciting new biomolecular nanoparticles that selectively induce cell death in tumor cells while leaving healthy differentiated cells intact. We are (i) exploring these complexes from a structure-and-dynamics-based perspective, and (ii) currently collaborating in the Phase I/II clinical testing of these complexes for treatment against bladder cancer and colon cancer.


2. **NMR Metabolomics of BioBanks**

   Personalized healthcare requires a thorough understanding and knowledge of all interactions between the genome and environment as observed in the metabolic phenotype. To this end, we have been developing NMR-based metabolomics and advancing applications including disease fingerprinting, biomarker discovery, and the prediction of the toxicity, mechanism of action, and side effects of drugs. Our work involves the systematic acquisition and analyses of BioBank samples present in Ireland. Such unparalleled resolution and sensitivity has allowed us to identify novel biomarkers in diseases ranging from kidney inflammation to teenage depression.


### Current Technologies used:

- Metabolomics (Quantitative NMR metabolomics of serum, urine, cell-tissue lysates, etc)
- Biomolecular NMR: Ligand binding, Atomic-level structure elucidation, partially-unfolded proteins
- Protein aggregation monitoring with NMR/optical spectroscopy/HPLC: Amyloid fibril formation, small-molecule inhibition of fibrillogenesis

### Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

- Biobanks: Detailed metabolomic profiling of entire biobanks with high-throughput technologies.
- Metabolomics of biological fluids (urine, blood, serum, etc): Disease fingerprinting, Biomarker discovery.
- Pharmaceutical: Prediction of drug toxicity, analysis of mechanism of action and side effects
- Probiotic and Microbiomes: Metabolomics of probiotic products/microbiomes for their characterization
Research Interests (please use bullet points or keywords):

- Biomaterials for drug delivery, gene delivery, gene silencing, 3D in vitro models of colorectal cancer, 3D in vitro models of full thickness skin models, cell delivery hydrogels, in vitro models of disease
- Stem cell differentiation into cardiomyocytes, cardiac progenitor cells for in vitro modelling in 3D using mouse embryonic stem cells, human induced pluripotent stem cells, direct transdifferentiation of cells
- Bioreactor design- flow bioreactors, electrical simulation of in vitro cultures, strain/stress bioreactors
- Extracellular matrix: creation of biomaterials using ECM, crosslinking of ECMS, fibrosis,
- Imaging: Non-invasive multiphoton imaging (SHG for collagens, MPE for elastin), fluorescent lifetime imaging (FLIM) for NADH imaging, metabolism, glycolysis, oxidative phosphorylation
- Electrospinning of polymeric biomaterials, melt electrowriting of polymeric biomaterials, electroconductive biomaterials

Overall, three main research lines:
- Generation of 3D in vitro cardiac models using ECM based biomaterials, electrical stimulation and mechanical stimulation of stem cells as in vitro models of disease or cardiac tissue transplants
- Electroconductive biomaterials for use as a cardiac patch
- FLIM technology as a method to define cell specific metabolism in cell microenvironments

Current Technologies used:
Melt ElectroWriting of biomaterials
Electroconductive biomaterials
FLIM and multiphoton microscopy
Bioreactor technology
Routine: stem cell culture, immunohistochemistry, SEM, mechanical testing

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
- FLIM- imaging cell metabolism – applies to both immune and cancer areas- using cell cultures, fresh/frozen-retrieved biopsies
- Biomaterials- generation of in vitro models of disease using ECM biomaterials
Name, Group Name, Address and Contact Details:

Barry Moran
Manager
Flow Cytometry Facility
School of Biochemistry and Immunology
Trinity College Dublin

barry.moran@tcd.ie
01 896 2761
@tcdflow

Research Interests (please use bullet points or keywords):

- Helper T cell subsets in human disease (primarily skin disease)
- Th17:Treg cell dysregulation
- Tissue dissociation and single cell analysis
- High-parameter immunophenotyping and intracellular cytokine analysis

Current Technologies used:

- Up to 17 parameter cytometry analysis (multiple cytometers)
- Cell sorting (BD FACS Aria Cell Sorter)
- Imaging Cytometry (ImageStream X Mark II)

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

Expertise in flow cytometry preparation, acquisition and analysis. In particular:

- Cell sorting
- High parameter analysis
- Intracellular cytokine staining
- Cell cycle, mitochondria and DNA analysis
- Apoptosis analysis
- Transfected cell analysis
Name, Group Name, Address and Contact Details:

Gary Moran
Molecular Oral Microbiology,
School of Dental Science,
Dublin Dental University Hospital,
Lincoln Place,
Dublin 2.

Research Interests (please use bullet points or keywords):

- Analysis of the Human Microbiome using next generation sequencing technologies
- The role of the oral microbiome and oral malignancy
- Role of oral bacteria and their products in malignancy
- The oral mycobiome
- Oral leukoplakia
- *Fusobacteria*

Current Technologies used:

- Illumina Sequencing of oral bacterial and fungal communities
- Microbiome analysis using tools such as Mothur, Dada2

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

Our expertise in analysis of microbiomes using computation tools such as Mothur and Dada2 can be applied to any microbial community in the human body.
Name, Group Name, Address and Contact Details:

Maria Morrissey PhD
Irish Cancer Society Research Fellow
Department of Surgery, TTMI, Trinity College Dublin, St James' Hospital, Dublin 8
mmorris6@tcd.ie

Research Interests (please use bullet points or keywords):

Elucidating the crosstalk between oesophageal tumours and the immune response in patients receiving chemoradiation treatment: identification of novel prognostic markers and therapeutic strategies.

- Tumour microenvironment
- Dendritic Cells
- Chemoradiotherapy (CRT)
- Response to Treatment
- Gastrointestinal Tract - Oesophageal and Colorectal cancer
- Tumour Conditioned Media
- Angiogenic Mediators
- Inflammatory Mediators
- Angiogenic inhibitors

Current Technologies used:

- Monocyte-derived dendritic cells
- Flow cytometry
- ELISA
- Immunohistochemistry
- Immunophenotyping – whole blood staining
- Tumour Explant Culture
- In vitro irradiation
- Zebrafish

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

For my recent collaborations I have provided monocyte-derived dendritic cells
Name: Dania Movia

Group Name: Laboratory for Biological Characterisation of Advanced Materials (LBCAM) / Nanomedicine Lab

Address: Lab 0.74, Trinity Translational Medicine Institute, Trinity Centre for Health Sciences, James’s Street, Dublin 8, Dublin, Ireland

Contact Details: Ext. 3259; Email: dmovia@tcd.ie

Research Interests:

My current research interests are:

1. Understanding how cancer cells orchestrate a coordinated response to pharmacological therapies to acquire resistance, and
2. Designing and developing novel nanomedicine treatments that overcome these coordinated signals. The specific focus is the cancer cells-stroma crosstalk as, therapeutically, this is of extreme interest because of its role in tumour progression and chemoresistance.

To fully realise the promise of targeting the cancer cells-stroma crosstalk for therapeutic benefit, my research activity focuses on the following key topics:

1. Develop and validate tissue-mimetic, 3D preclinical models that mimic the cancer cells-stroma crosstalk found in vivo in malignant tumours; and
2. Design and develop novel oncological nanomedicine therapeutic products (nanopharmaceuticals) that improve the efficacy of today’s anti-cancer treatments by actively targeting cancer cells and modulating the cancer cells-stroma crosstalk, in a synergistic manner.

The main types of malignancies targeted in my research are Pancreatic Ductal AdenoCarcinoma (PDAC) and Non-Small-Cell Lung Cancer (NSCLC).

Current Technologies used:

- Cell culture, cell models and in vitro assays (e.g. cell viability assays; cell cycle analysis).
- Confocal, electron and fluorescence microscopy.
- Molecular biology: immunocytochemistry; ELISA; Western Blotting.
- High throughput screening: High Content Screening and Analysis (HCSA); flow cytometry.
- Microfluidics applied to preclinical testing.
- Physico-chemical characterization of nanomaterials: zeta potential; optical spectroscopy (absorption, fluorescence, FT-IR and Raman spectroscopy); TGA; LAL assay

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

Interactions between tumor-infiltrating leukocytes and cancer cells have been of great interest because of the possibility that immune cells either interfere with tumor progression or actively promote tumor growth. Thanks to TCD vast experience in T-cells isolation and culturing, the 3D preclinical models developed within our lab could be further developed to include immune cells: these will represent new tools for cancer immunobiology studies and for pre-clinical assessment of innovative oncological treatments.
Name, Group Name, Address and Contact Details:

James Murray
Autophagy Signalling Laboratory
TBSI, Rm 5.05
School of Biochemistry & Immunology
Tel: +353(0)1896 2390
Email: james.murray@tcd.ie

Research Interests (please use bullet points or keywords):

General Biochemistry & Cell biology;

- Membrane trafficking
- Survival and growth signalling
- Metabolism
- Autophagy
- Protein phosphorylation and cell signalling
- Small molecule inhibitors of protein and lipid kinases

Cancer;

- Mechanisms of cancer metastasis
- Autophagy-targeted therapeutics

Current Technologies used:

General biochemical techniques
Confocal imaging
Autophagy monitoring techniques (biochemical & cell biological)
Lentivirus-mediated gene silencing
Enzymology
Recombinant enzyme expression and purification

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

Open to ideas and new collaborations in communication between immune cells and the tumour environment and metastatic signalling.
Name, Group Name, Address and Contact Details:

Lorraine O’Driscoll  
Professor in Pharmacology  
School of Pharmacy and Pharmaceutical Sciences  
Panoz Institute & Trinity Biomedical Sciences Institute  
Trinity College Dublin  
Tel: 896-2822, Email: lodrisc@tcd.ie

Research Interests (please use bullet points or keywords):

- Determining how exosomes/extracellular vesicles (EVs) contribute to cancer metastasis, angiogenesis, drug resistance and modulate anti-cancer immune response i.e. harmful and beneficial effects of EVs
- Biomarkers: diagnosis, prognosis and companion diagnostics for predicting patients’ response to treatment
- New therapeutic targets
- Elucidating and circumventing resistance to targeted drugs and classical chemotherapy
- Clinical trials

Current Technologies used:

- Exosomes/extracellular vesicles (EVs) isolation, characterisation and analyses from a broad range of biofluids including conditioned medium, serum, plasma, saliva, urine, milk…
- Mammalian cell culture (class 10,000)
- Novel isogenic drug-sensitive and drug-resistant cell line pairs
- In vitro cellular-based assays, including: cytotoxic, cell cycle, migration, invasion, apoptosis/anoikis, angiogenesis
- Some global “omics” profiling – validation by qPCR, ectopic overexpression / knock-down with si/shRNA
- FACS, confocal microscopy, transmission electron microscopy
- Pre-clinical in vivo: some in-house models and access to some PDX models
- Translational clinical trial design, development and leadership

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

Interested in knowing of other pre-clinical in vivo models available to test risks-benefits of exosomes/extracellular vesicles (EVs) post-adm. via oral lavage or injection.

Interested in collaboration where plasma is available and outcome known for patients on any cancer clinical trial to evaluate the predictive relevance of exosomes/extracellular vesicles and their contents.
**Name, Group Name, Address and Contact Details:**

Cliona O’Farrelly,
Comparative Immunology Group
cliona.ofarrelly@tcd.ie

https://www.tcd.ie/Biochemistry/research/cig_cancer_immunol.php
https://www.youtube.com/watch?v=EGuqN7-5AAE

**Research Interests (please use bullet points or keywords):**

**Liver Immunology and Tumour Immune-surveillance**
Liver resident Innate lymphoid cells – NK cells, iNKT cells, gd T cells
NK progenitors
Microenvironment: cytokines, growth factors, metabolic products
Tumour surveillance mechanisms in human liver
HCC - HCV, NASH and alcohol induced
Liver metastasis (from colorectal and oesophageal cancers)

**Reproductive Immunology & Tumour Immune surveillance**
Uterine resident innate lymphoid cells
Human u NK cells and tumour surveillance microenvironment.
Local differentiation of uNK cells.

**Current Technologies used:**
Flow cytometry; tissue culture; next gen sequencing and analysis; protein arrays, immunohistochemistry

**Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):**
Metabolism and Innate lymphoid cells
Tumour induced depletion of ILCs – environmental effects, metabolic effects
Organ specific differentiation of innate lymphoid cells
NK differentiation
Regulation of ‘checkpoint’ expression by ILCs
Name, Group Name, Address and Contact Details:

Katie O’Grady  
Adjuvant Research Group  
School of Biochemistry and Immunology, TBSI, TCD  
Email: ogradyka@tcd.ie

Research Interests (please use bullet points or keywords):

- Adjuvant research  
- DAMPS  
- Cellular immunology  
- Immune regulation  
- Vaccine development

Current Technologies used:

- Flow cytometry  
- ELISAs  
- *In vivo* models of vaccination

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

Examination of immune regulation states and the presence of DAMP release in a tumour microenvironment

- *In vivo* models  
- Flow cytometry  
- ELISA
**Professor Jacintha O’Sullivan**, Professor in Translational Oncology, Trinity Translational Medicine Institute, Department of Surgery, St. James’s Hospital, Dublin 8
Email: osullij4@tcd.ie
Phone: 01-8962149, 0861541359

### Research Interests

I direct a multidisciplinary translational oncology team consisting of Scientists and Clinicians working in the area of gastrointestinal diseases (Oesophageal and Colorectal Cancer, Barretts Oesophagus and Ulcerative Colitis). Our Translational GI program utilises biobanks linked to the above human diseases. All samples are linked to detailed clinical, pathological and patient outcome data.

Research Themes specifically related to **Cancer Immunology** in the group:

- **Theme 1**: Diagnostic validations of signatures of disease progression and treatment response (including inflammatory signature panels).
- **Theme 2**: Targeting radioresistance in gastrointestinal cancers through a drug discovery program: identification of dual action drugs with anti-metabolic and anti-inflammatory activity
- **Theme 3**: Elucidating the cross talk between the tumour microenvironment and the immune system: implications for personalised medicine.

### Current Technologies used:

- Human explant culturing and drug screening *ex vivo*
- Seahorse Technology (assessment *in vitro* and *ex vivo*)
- Zebrafish drug screening
- Large scale gene and protein array screening
- Flow cytometry
- Immunohistochemistry and digital assessment of tissue staining
- Hypoxia work using the Don Whitley Scientific technology
- Radiation work using *X*strahl technology

### Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

Collaborative strengths to our program

Require expertise in:
- Mouse models of IBD and CRC
- Mass Spec/HPLC
- Confocal Microscopy
<table>
<thead>
<tr>
<th>Name, Group Name, Address and Contact Details:</th>
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<tbody>
<tr>
<td>Eva Palsson-McDermott, PhD.</td>
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<tr>
<td>Luke O’Neill’s group</td>
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<tr>
<td>School of Biochemistry &amp; Immunology, Room 4.32,</td>
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<tr>
<td>Biomedical Sciences Institute</td>
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<td>Trinity College</td>
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<td>Research Interests (please use bullet points or keywords):</td>
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<tr>
<td>Immunometabolism</td>
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<td>Check point inhibitors</td>
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<td>PD-L1</td>
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<td>PKM2</td>
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<td>LPS</td>
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<td>Macrophages</td>
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<td>Innate Immunity</td>
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<td>Current Technologies used:</td>
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<tr>
<td>In vivo endotoxemia mouse trials</td>
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<tr>
<td>CT26 mouse cancer model</td>
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<tr>
<td>Westerns</td>
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<td>Seahorse</td>
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<tr>
<td>Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):</td>
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</tbody>
</table>
Dr. Fergus Poynton  
Prof. Seamas Donnelly Group  
School of Medicine  
Department of Clinical Medicine  
Trinity Biomedical Sciences Institute  
fpoynton@tcd.ie

Research Interests (please use bullet points or keywords):

- The design and synthesis of novel small molecular weight inhibitors of the cytokine macrophage migration inhibitory factor (MIF), for anti-inflammatory therapies.
- A particular emphasis of our research focuses on the treatment of respiratory diseases, such as lung cancer and cystic fibrosis.
- Host environmental influences on the regulation of the inflammatory response.
- Genetic profiling guiding disease diagnosis, prognosis and response to therapy
- Host/Pathogen interactions which predispose towards more aggressive infection.

Current Technologies used:

- UV/Visible and Emission Spectroscopy
- Circular Dichroism
- Linear Dichroism
- Dynamic Light Scattering
- Gel Electrophoresis
- Enzyme-linked immunosorbent assay

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
**Name, Group Name, Address and Contact Details:**

Hannah Prenderville  
L. Lynch Lab / Macrophage Homeostasis Group (F. Sheedy Lab).  
School of Biochemistry and Immunology,  
Trinity Biomedical Sciences Institute,  
152-160 Pearse Street,  
Dublin 2,  
Co. Dublin.

**Research Interests (please use bullet points or keywords):**

- Innate Immunity  
- Immunometabolism (Systemic and Cellular)  
- Cancer Immunology  
- Obesity, immunity and cancer  
- The effects of dietary lipids on cancer progression

**Current Technologies used:**

- qPCR  
- Immune cell-tumour cell line transwell co-culture system  
- MTT assay  
- Lactate assay  
- ELISA  
- Western Blot

**Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):**

- Immunometabolism  
- In vivo tumour studies
Adriele PRINA-MELLO,
Laboratory for Biological Characterization of Advanced Materials (LBCAM)
And
Nanomedicine Group,
Room 0.74, Trinity Translational Medicine Institute (TTMI)

Trinity Centre for Health Sciences
James’s street, Dublin 8

T (CRANN/AMBER): +353 1 896 3087
T (TTMI): +353 1 896 3259 (lab)

E: prinamea@tcd.ie / prinamea@gmail.com

Research Interests (please use bullet points or keywords):

- TRANSLATIONAL NANOMEDICINE (bench to bedside)
  and
- NANOMEDICINE (development, characterisation and testing)
  and
- THERANOSTICS
  Applied to different cancers
- NANO-TECHNOLOGY assisted DIAGNOSTICS PLATFORMS (rapid screening)
- LAB / ORGAN ON A CHIP
- INSTRUMENTATION DEVELOPMENT
- 3Rs as alternative to in vivo testing

Current Technologies used:

- TRANSLATIONAL NANOMED: Full suite of characterization and assay cascade as developed at EU Nanomedicine Characterization Laboratory (www.eu-ncl.eu)
- NANOMEDICINE: organic or inorganic nanoparticles in microfluidics, small volume cartridges or 3D spheroids
- THERANOSTICS: MRI, PET, NIR, Thermal/Photo ablation, Hyperthermia, Magnetic detection
- DIAGNOSTICS: nanofluidics, high-sensitivity flow cytometry, multiplexing techniques

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
Dr Mark W. Robinson
In-coming HRB Emerging Investigator (November 2017)
School of Medicine, Trinity Translational Medicine Institute

Current Position:
Research Fellow in Prof. Cliona O’Farrelly’s group, School of B&I

<table>
<thead>
<tr>
<th>Research Interests (please use bullet points or keywords):</th>
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<tbody>
<tr>
<td>• Liver cancer – HCC and liver metastasis</td>
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<tr>
<td>• Liver immunology</td>
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<tr>
<td>• Natural killer cells</td>
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<tr>
<td>• Tissue-resident immune cells</td>
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<tr>
<td>• Liver cirrhosis</td>
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<tr>
<td>• Check-point inhibitors</td>
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<tr>
<td>• Immune cell exhaustion/senescence</td>
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<tr>
<td>• Resolution of inflammation</td>
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<thead>
<tr>
<th>Current Technologies used:</th>
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</thead>
<tbody>
<tr>
<td>• Flow cytometry</td>
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<tr>
<td>• Quantitative PCR</td>
</tr>
<tr>
<td>• High-throughput sequencing (RNA-seq)</td>
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<tr>
<td>• Human ex vivo cell culture models of liver-resident immune cells</td>
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<thead>
<tr>
<th>Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):</th>
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<tbody>
<tr>
<td>• Imaging of immune cell infiltrates into tumours using FFPE biopsy samples</td>
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<tr>
<td>o Collaboration on development of multi-colour immunofluorescence technique</td>
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<tr>
<td>• Analysis of tissue-resident lymphocyte frequency and gene expression in tumours</td>
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<tr>
<td>o Collaboration on access to tumour biopsies and adjacent non-tumour tissue</td>
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<tr>
<td>o Collaboration on mouse models</td>
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<tr>
<td>• Expression of checkpoint inhibitors by tumour-infiltrating NK cells and T cell/NK cell interactions</td>
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<tr>
<td>o Collaboration on access to tumour biopsies and adjacent non-tumour tissue</td>
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<tr>
<td>o Collaboration on mouse models</td>
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</table>
Name, Group Name, Address and Contact Details:

Orla Sheils,  
Molecular Pathology  
TTMI,  
Trinity Centre for Health Sciences, SJH

Research Interests (please use bullet points or keywords):

- **Cancer Metastasis**
  - Immune Evasion
  - Role of Von Willebrand Factor
  - Platelet Cloaking
- **Molecular Diagnostics**
  - Developing and translating assays into clinical service
- **Liquid biopsy**
  - CTCs, cfDNA, exosomes
- **Cancer Stem Cells**
- **Thyroid Neoplasia and Autoimmune Thyroiditis**
- **MEK inhibition**
- **Functional Genomics**
  - Gene expression
  - miRNA regulation
  - non-coding RNAs

Current Technologies used:

- NGS- Ion Torrent
- TaqMan RT-PCR
- Whole genome Expression Analysis
- Immunohistochemistry
- Flow Cytometry
- High Content Analysis

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):

- Exosome analysis
- Interaction of shed microparticles with platelets and/or macrophages
Name, Group Name, Address and Contact Details:

Karen Slattery
Natural Killer cells – Clair Gardiner
Room 4.31, Trinity Biomedical Sciences Institute
Email: kslatte@tcd.ie
Phone: 0862086462

Research Interests (please use bullet points or keywords):
- NK cells and cancer
- Immunometabolism
- The impact of cancer on immunometabolism and how this alters function
- Immune cell exhaustion
- Mitochondrial structure and function

Current Technologies used:
- Flow cytometry
- RT-PCR
- Killing assay
- Seahorse metabolic flux analyser

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
- Open to all potential areas of cross-discipline collaboration.
Name, Group Name, Address and Contact Details:
Zbigniew Zaslona, Luke O'Neill group, 4th floor of TBSI, zaslonaz@tcd.ie

Research Interests (please use bullet points or keywords):
- Inate immunity
- Inflammation
- Cell death
- Asthma

Current Technologies used:
Flow cytometry, qPCR, ELISA, H&E staining, in vivo mice models, isolation or primary cells

Areas for potential cross-discipline collaboration (include expertise/techniques required from collaboration):
Postranslational protein modification analysis
Protein-protein interaction analysis
Overexpression of proteins