The theme of Child Health unites UCD researchers working to develop capacity in clinical, translational and health sciences research in paediatrics. Affiliated researchers propose to advance the establishment of the UCD Centre for Child Health Research (CCHR), which will centralise and streamline existing child health research at University College Dublin.

The CCHR comprises a cluster of clinical and translational researchers at University College Dublin and its affiliated paediatric hospitals. It includes investigators with expertise across the spectrum of translational research, including laboratory-based scientists, clinician scientists and clinician researchers. Research outputs cover a wide range of paediatric diseases, however strong focus has been brought to bear on certain research areas/themes with existing established research capacity.

Infectious diseases are the main causes of childhood mortality worldwide. Diarrhoeal disease research has benefited from the establishment of the DO-CHAS initiative funded by the National Children’s Research Centre which aims to understand the recent rapid increase in inflammatory bowel disease in Irish children and already has recruited over 150 patients. Furthermore, research by UCD affiliated investigators in the areas of childhood HIV infection and immune deficiency states relevant to TB has been published in the Lancet and New England Journal of Medicine.

Laboratory-based investigation of the inflammatory and host defence mechanisms underlying important childhood diarrhoeal disease pathogens has been strengthened by an award from the National Children’s Research Centre of over one million Euro to a group of Science Foundation Ireland/Health Research Board-funded investigators interested in the role of reactive oxygen species during intestinal infection in children.

Prevention of morbidity and mortality in premature infants is a major challenge of child health. UCD affiliated investigators have been awarded a number of investigator grants to study inflammatory and hypoxic injury in infants. Exciting results of studies aimed at analysing and predicting morbidity and mortality using clinical and laboratory indicators, and more effective methods for treating sick neonates, have been published.

Congenital birth defects have been the focus of research by UCD affiliated investigators based at the National Children’s Research Centre for many years. Investigator research grants have been awarded for the study of gastrointestinal and pulmonary congenital defects with multiple publications on the pathogenesis of, and outcomes in, a variety of congenital defects.

The Academic Lead is Prof Billy Bourke, and the Research Team includes Prof Billy Bourke (Associate Professor & Consultant in Paediatrics), Dr Michael Barrett (Special Lecturer in Paediatrics), Prof Carlos Blanco (Adjunct Professor), Dr Annemarie Broderick (Senior Clinical Lecturer in Paediatrics), Dr Cormac Breathnach (Clinical Lecturer in Paediatrics), Prof Karna Butler (Clinical Professor in Paediatrics), Dr Marguerite Clyne (Senior Clinical Lecturer in Paediatrics), Dr Declan Cody (Clinical Lecturer in Paediatrics), Prof Karina Butler (Clinical Professor in Paediatrics), Dr Marguerite Clyne (Lecturer), Dr Cormac Breathnach (Clinical Lecturer in Paediatrics), Prof Prem Puri (Newman Clinical Research Professor), Dr Marian Rowland (Lecturer in Clinical Research), Dr Jennifer Thompson (Senior Lecturer), Dr Ina Knerr (Consultant Paediatrician), Dr Ulla Knaus (Professor of Immunology), Dr Eleanor Molloy (Senior Clinical Lecturer in Paediatrics), Dr Sinead Murphy (College Lecturer), Dr Dermot Kelly (Consultant Paediatrician), and more.

The Child Health theme at UCD aims to unite researchers working in clinical, translational, and health sciences research in paediatrics to advance the establishment of the UCD Centre for Child Health Research (CCHR).
For more information about the work of UCD researchers working in the area of paediatrics and child health, please visit the School’s award-winning website, available at www.ucd.ie/medicine.
Dr Jennifer Thompson
Senior Lecturer
Location: UCD Health Sciences Centre
Contact: 01-716 6628
Email: jennifer.thompson@ucd.ie

My main research interest is in mechanisms of abnormal development in the embryo, in terms of response to teratogenic insults and pathways that may be involved in spontaneous malformation.

Our research group, with collaborators at UCD and National Childrens Research Centre, promotes advancement in this field and facilitates 4th level education of prospective researchers and clinicians in this area.

We have an established track record in presentation at international conferences and publication in world-class scientific journals.

Researchers Supported:
Johannes Duess, PhD
Anna Kaslova, MD
Naho Fujwara, post-doctoral researcher

Dr Marion Rowland
Lecturer in Clinical Research
Location: Catherine McAuley Research Centre
Contact: 01 716 4497
Email: marion.rowland@ucd.ie

Epidemiological studies, which provide large cohorts of well-characterized participants, are a key platform to enable the translation of new technologies and laboratory techniques into real advances in patient care. As a stand-alone I believe we have a unique opportunity to contribute to future advances in translational research in a number of areas. My research has focused on long-term epidemiological studies, which seek to increase our understanding of the disease process/phenotype in the areas of Cystic Fibrosis, Helicobacter pylori, and Functional Disorders in Children.

Researchers Supported:
Ms Jennifer Drummond, Research Nurse
Ms Sherly George, Research Nurse

Grants:

- **Title:** Transcriptional profiling of the human pathogen Campylobacter jejuni during infection of the intestinal mucosa
  - **Start/End Dates:** 2010-2013
  - **Funder:** The Children’s Medical and Research Foundation
  - **Amount:** €70,000

- **Title:** Characterising and mining the epithelial glycosylation in host-microbial interactions
  - **Start/End Dates:** 2009-2014
  - **Funder:** Science Foundation Ireland Alimentary Glycoscience Research Cluster
  - **Amount:** €221,362

- **Title:** Reactive oxygen species targeting the bacterial phosphotyrosine network as defense strategy against mucosal pathogens
  - **Start/End Dates:** 2012-2016
  - **Funder:** The Children’s Medical and Research Foundation
  - **Amount:** €150,000

- **Title:** Vitamin D and Immunomodulation in Pediatric sepsis (DiaPERS)
  - **Start/End Dates:** 2011-2013
  - **Collaborator:** Grant proposal with Conway Institute, UCD/Prof RW Watson.
  - **Funder:** NCRC
  - **Amount:** €274,181

- **Title:** Cytokines and neonatal brain injury and sepsis: cTREPs-I.
  - **Start/End Dates:** 2010-2013
  - **Funder:** National Maternity Hospital Fund
  - **Amount:** €10,000

- **Title:** Neonatal brain injury and systemic antioxidants.
  - **Start/End Dates:** 2010-2013
  - **Funder:** Children’s University Hospital, Temple Street Fund
  - **Amount:** €17,000

- **Title:** The role of Protein C in Neonatal inflammation
  - **Start/End Dates:** 2010-2012
  - **Funder:** National Children’s Research Centre
  - **Amount:** €12,000

- **Title:** Neonatal brain injury on MRI and early EEG association with disruption of the blood brain barrier and systemic antioxidants.
  - **Start/End Dates:** 2009-2012
  - **Funder:** Children’s Research Fund, Crumlin
  - **Amount:** €110,000

- **Title:** Neonatal Cardiac function: novel echocardiographic and biochemical markers to predict neonatal outcome
  - **Start/End Dates:** 2010-2012
  - **Funder:** Children’s Research Fund, Crumlin
  - **Amount:** €110,000

- **Title:** Persistent inflammation and neonatal brain injury: association of systemic and cerebrospinal fluid biomarkers with MRI.
  - **Start/End Dates:** 2009-2012
  - **Funder:** Children’s Research Fund, Crumlin
  - **Amount:** €187,000

- **Title:** Sickle Cell Acute Pain in the Paediatric Emergency Department
  - **Start/End Dates:** 2011-2014
  - **Funder:** National Children’s Research Centre
  - **Amount:** €50,000

- **Title:** Baritellia pertussis infection in Ireland - detection, differential diagnosis and source of infection
  - **Start/End Dates:** 1st Nov 2013-31st Oct 2014
  - **Funder:** GlaxoSmithKline
  - **Amount:** €51,949.00

- **Title:** Endemic Pseudomonas aeruginosa in Cystic Fibrosis Patients
  - **Start/End Dates:** 1st Apr 2012-
  - **Funder:** Marzi, Sharp & Dome
  - **Amount:** €20,188.00

- **Title:** Investigating the Structural and Molecular Basis of Peristalsis in the Human Pelvic-Ureteric Junction in Health and Disease
  - **Start/End Dates:** 1st Apr - 31 Mar 2014
  - **Funder:** NCRC
  - **Amount:** €95,900

- **Title:** Wnt Signaling as a Cues to Embryonic Folding – A Possible Mechanism for Ventral Body Wall Defect
  - **Start/End Dates:** Jan 2012 – 31 Dec 2014
  - **Funder:** NCRC
  - **Amount:** €1,912.75

- **Title:** The origin of congenital foregut abnormalities in Oesophageal-Atresia/ Tracheo-Oesophageal Fistula
  - **Start/End Dates:** 1st Jan 12 – 31 Dec 2014
  - **Funder:** NCRC
  - **Amount:** €237,243

- **Title:** Development of PDGFR-α-positive cells an exciting new cell type in the human colon
  - **Start/End Dates:** 1st Apr 2012 – 31 Aug 2015
  - **Funder:** NCRC
  - **Amount:** €337,243

- **Title:** The role of peristalsis in congenital foregut abnormalities in patients with Oesophageal-Atresia/ Tracheo-Oesophageal Fistula
  - **Start/End Dates:** 1st Jan 12 – 31 Dec 2014
  - **Funder:** NCRC
  - **Amount:** €1,800,000

- **Title:** Pathogenesis of Congenital Diaphragmatic Hernia
  - **Start/End Dates:** 1st Nov 2011 – 31st Oct 2012
  - **Funder:** NCRC
  - **Amount:** €80,000

- **Title:** Study of the pathogenesis of pulmonary hypoplasia in an experimental rat model of congenital diaphragmatic hernia
  - **Start/End Dates:** 1st Feb 2011 – 31st Jan 2014
  - **Funder:** NCRC
  - **Amount:** €1,200,000

- **Title:** Pathogenesis of Congenital Diaphragmatic Hernia
  - **Start/End Dates:** 1st Jan 2011 – 31 Dec 2012
  - **Funder:** NCRC
  - **Amount:** €80,000

- **Title:** Investigation of the Pathogenesis of Ventral Body Wall Defect using the Cadmium Chicks Model
  - **Start/End Dates:** 1st Apr 2011-30th Jun 2013