today’s research, tomorrow’s medicine

Student Information Booklet
Message from the Director

Hi, my name is Chris Cowell and as Director of Kids Research Institute (KRI) at The Children's Hospital at Westmead, I hope that you may be interested in undertaking research in paediatrics. We can offer opportunities for you in a wide range of projects led by scientists with a passion for child health research.

Research staff at Kids Research Institute and the University of Sydney Medical School recognise the importance of finding a project that you will find both stimulating and challenging. At the Kids Research Institute we are dedicated to improving health outcomes for children by excellence in translational research. Our research activity includes laboratory sciences to clinical and population health research.

Our basic science researchers are enhancing the understanding and developing new treatments for neuromuscular conditions, congenital heart disease, cancer, kidney disease, orthopaedics, viral infections, neuroinflammation, and wound healing. Our leadership in population health research is nationally and internationally recognised with the Cochrane Centre for Kidney Research, the National Centre for Immunisation Research and Surveillance and the Australasian Paediatric Surveillance Unit. Our clinical research program addresses many of the serious health problems experienced by children and our clinical research staff every day in their work at The Children's Hospital at Westmead.

Staff at the Kids Research Institute are leaders in their fields and a number of them have been honoured this year.

Professor John Christodoulou was awarded an Order of Australia as a researcher and clinician in the field of human genetics and in particular the metabolic disorders of children.

Professor Jonathon Craig was awarded the International Distinguished Medal, National Kidney Foundation’s 2010, for his outstanding contribution to the study of kidney disease in children and adults.

Professor Louise Baur was named in the Queens Birthday Honours List for 2010, in recognition of her outstanding commitment to understanding and tackling the causes and complications of obesity, poor nutrition and physical inactivity in children and young people.

Associate Professor Cheryl Jones is the Head of Maternal and Child Health research stream as part of the Sydney Medical School's Strategic Plan.

Even our students are recognised for their research and clinical talents such as Charmaine Tam, who was invited to present her research at the 60th Interdisciplinary Meeting of Nobel Laureates, as a result of her research into childhood obesity.

I hope that you may join us and look forward to welcoming you to the stimulating research environment at the Kids Research Institute.

Chris Cowell
Director, Kids Research Institute at The Children's Hospital at Westmead
Student Opportunities

The Kids Research Institute facilitates a highly distinguished postgraduate research program with more than 80 PhD, MPhil and other postgraduate students studying across our eight research streams.

KRI has a wide range of opportunities for students with a passion for research. For students interested in Laboratory Research, KRI has units discovering new treatments for congenital heart disease, cancer, kidney disease, neuromuscular conditions and orthopaedics. For students interested in clinical and population health research, we have one of the strongest clinical research programs in the state based on our strong affiliation with The Children’s Hospital at Westmead.

Postgraduate students are generally enrolled to undertake a PhD, MPhil or Honours placement program at KRI through the University of Sydney due to The Children’s Hospital at Westmead being registered as a teaching hospital, however you can be enrolled through any university.

For more information on the student programs please visit our website at http://www.kidsresearch.org.au/research-study/index.php

Work Experience:
High school and university undergraduate students are able to gain valuable experience in a research setting. To secure a position, applicants should contact Matt Laver, Laboratory Manager on 9845 3091 or matthel1@chw.edu.au

Summer Studentships:
Summer Scholarships are offered by the University of Sydney on an annual basis. This program offers a paid 8 week placement for university students and the opportunity to compete for the University of Sydney Dean’s Prize. Students with KRI placements have been awarded this prize in 2007/8 and 2008/9 and were runners-up in 2009/10.

More information can be found at http://sydney.edu.au/medicine/research/srs/index.php

Postgraduate Research:
Honours, Masters, and PhD opportunities are available at the Kid Research Institute. More information can be found on the University of Sydney website http://sydney.edu.au/medicine/chw

For more information on postgraduate opportunities contact Dr Russell Dale, Post-graduate Coordinator pgmai@chw.edu.au

Position Vacancies:
Technical Assistant, Research assistant, and Research officer positions are regularly available at the Kids Research Institute. All positions are advertised through the SEEK.com website.
Michael Smith – Kids Research Institute Summer Scholar and Deans Prize Winner for 2008

“A great strength of the Summer Scholarship scheme lies in putting the student directly in places where quality and current medical research is conducted. The selection of research areas are in a wide range of medical fields and all supervisors are keen for the student to excel and produce tangible results and thus reap career-advancing rewards. I found myself working alongside scientists and doctors who give great insight into the research and publishing processes. By myself, I would never have had the means or the networks to organise and initiate the clinical research I had the opportunity to do. In short, this scheme was the starting point of a relationship with a medical research organisation for which I have already presented at a conference of Physicians and have two papers on the way!”

Michael accepting Dean’s prize from Prof Bruce Robinson, Dean, Sydney Medical School
**Stream 1: Neuroscience and Mental Health**

The Neurosciences and Mental Health stream researches the effect of the brain and muscle on children’s health and well-being.

Its activities range from research into neurological diseases such as muscular dystrophy and neuromuscular disorders to developmental cognitive neuropsychology research. This involves understanding how brains work in children with varying conditions from brain tumours to sleep disorders and dyslexia and improving the interface between health and education in children with a range of neurological conditions.

Other research involves improving the understanding of the effectiveness of interventions in children and adolescents with eating disorders.

**Children’s Hospital Education Research Institute (CHERI)**
Dr Belinda Barton BelindaB@chw.edu.au

**Department of Adolescent Medicine and Eating Disorders**
Dr Michael Kohn MichaelK2@chw.edu.au or and Dr Sloane Madden SloaneM@chw.edu.au

**Developmental Cognitive Neuropsychology Research Unit (DeCog)**
Dr Ellen Northcott EllenN@chw.edu.au

**Institute of Neuroscience and Muscle Research**
Prof Kathryn North Kathryn@chw.edu.au
Stream 2: Tissue engineering and Bone repair

This stream is advancing knowledge of how the body heals itself, which is translated into better treatments to promote healing.

Orthopaedic and biotechnology research is working to understand bone diseases and bone repair.

A wound healing laboratory is investigating what happens at a cellular level when wounds heal especially after suffering a burns injury.

Children’s Hospital Burns Research Institute (Clinical)
A/Prof Andrew Holland andrewh3@chw.edu.au and Dr John G Harvey johnh@chw.edu.au

Orthopaedic Research and Biotechnology Unit
A/Prof David Little davidl3@chw.edu.au

Wound Healing Laboratory
Dr Rachael Murray rachaelm@chw.edu.au
Stream 3: Cancer Biology

The Childrens Hospital at Westmead treats around 120 children with cancer every year.

The Children’s Cancer Research Unit (CCRU) undertakes basic, clinical and translational cancer research, particularly into child and adolescent tumours which have a poor patient prognosis.

Researchers are investigating the role of gene therapy in treating cancers, and are developing molecularly targeted therapies.

The Biospecimens Research Group and Tumour Bank holds more than 20,000 samples of childhood tumours for use in research in Australia and overseas.

Children’s Cancer Research Unit
A/Prof Jennifer Byrne jennifeb@chw.edu.au
Stream 4: Genetics, Gene Therapy and Genomics

Research into genetics and the human genome aims to understand the biology of genetic disorders, including rare disorders such as Ret Syndrome and Arts Syndrome.

All newborns in NSW and the ACT are screened by the NSW Newborn Screening Program for errors of the metabolism.

Other research areas involve eye and developmental genetics, genetic skeletal disorders, and lysosomes.

Another important area is gene therapy, which aims to treat genetic conditions in children by replacing faulty genes with healthy ones.

Gene Therapy Research Unit
Prof Ian Alexander iana@chw.edu.au

Western Sydney Genetics Research Program
Prof John Christodoulou johnc@chw.edu.au
Stream 5: Obesity, Metabolism and Nutrition

The Obesity, Metabolism and Nutrition stream aims to prevent and treat complications resulting from disorders of the metabolism, such as diabetes, osteoporosis and obesity.

It incorporates one of the world’s leading clinical paediatric endocrinology research centres, as well as an Obesity Research Group which focuses on the burgeoning problem of child and adolescent obesity.

Other work looks at the efficacy of exercise in improving metabolism, muscle and bone strength in children with a range of chronic conditions.

Children’s Hospital Institute for Sports Medicine (CHISM)
Dr Robert Parker RobertP@chw.edu.au

Institute of Endocrinology and Diabetes
A/Prof Kim Donaghue kimd@chw.edu.au and A/Prof Geoff Ambler geoffa@chw.edu.au

Obesity Research Group
Prof Louise Baur LouiseB3@chw.edu.au

The James Fairfax Institute Research Group
Prof Kevin Gaskin keving@chw.edu.au
Stream 6: Renal medicine and Transplantation

Research is undertaken into new treatments for kidney disease, new methods of diagnosis, and improving the quality of life for children with kidney disease.

The Centre for Kidney Research conducts laboratory work to help understand the genetic basis of kidney disease and the immune response to transplantation.

Centre for Kidney Research (Clinical)
Prof Jonathan Craig jonc@chw.edu.au

Centre for Kidney Research (Laboratory)
Dr Stephen Alexander stephena@chw.edu.au
Stream 7: Infectious diseases and Immunology

This stream studies the immune system and ways of preventing infectious diseases.

Research areas include immunisation, vaccine preventable diseases, and this work informs policy regarding the spread of disease and epidemics.

Other research looks at the transmission of perinatal infections from mother to unborn child; allergic disorders, which are increasing among Australian children, and the role of viruses in infectious disease.

Centre for Perinatal Infection Research
A/Prof Cheryl Jones cherylj@chw.edu.au

Department of Allergy and Immunology
Dr Alyson Kakakios AlysonK@chw.edu.au

Department of Infectious Diseases and Microbiology
A/Prof Alison Kesson alisonk2@chw.edu.au

National Centre for Immunisation Research and Surveillance
Prof Peter McIntyre peterm@chw.edu.au and Prof Robert Booy robertB2@chw.edu.au
Stream 8: Clinical sciences and Health services delivery

Research into the delivery of health services aims to provide an evidence-based approach to the way we treat sick children.

It incorporates national surveillance into childhood illness and injury; improvements in nursing services, and supports education for students and staff at the University of Sydney’s Medical School.

Clinical sciences research spans care for children injured in traumatic circumstances; respiratory medicine; sleeping disorders and SIDS; nuclear medicine; care for sick newborn babies, and rehabilitation for children with brain injuries and cerebral palsy.

Australian Paediatric Surveillance Unit
Prof Elizabeth Elliott elizabe2@chw.edu.au

Centre for Evidence based paediatrics, Gastroenterology and Nutrition
Dr Diana Thomson dianat@chw.edu.au

Centre for Trauma Care, Prevention, Education and Research
Prof Danny Cass (Director) dannyc@chw.edu.au and Dr Lawrence Lam (Scientific Director) lawrencl@chw.edu.au

Children’s Hospital at Westmead Clinical School
Prof Kathryn North Kathryn@chw.edu.au

Department of Adolescent Medicine
Dr Susan Towns suet2@chw.edu.au

Department of Nuclear Medicine
Prof Robert Howman-Giles roberth1@chw.edu.au

Division of Allied Health
Ms Alison Jones alisonj@chw.edu.au

Kids Critical Care Research Unit
Dr Marino Festa MarinoF@chw.edu.au

Kids Heart Research
A/Prof David Winlaw DavidW@chw.edu.au

Neonatology and the Grace Centre for Newborn Care Research Unit
A/Prof Nadia Badawi nadiab@chw.edu.au & A/Prof Kaye Spence AM kaye@chw.edu.au

Nursing Research and Practice Development Unit
Prof Valerie Wilson valeriew@chw.edu.au

Rehabilitation Research
Stephen O’Flaherty stepheno@chw.edu.au

Respiratory Medicine Research (Children’s Chest Research Centre)
Prof Peter van Asperen peterv@chw.edu.au

SIDS and Sleep Apnoea Research
A/Prof Karen Waters karenw2@chw.edu.au
Research & Development Office

The Research Office is located in the Kerry Packer Building of The Children’s Hospital at Westmead and supports research through the provision of strategic initiatives, grants, scholarships, laboratory, ethics and governance, clinical trials, fundraising, intellectual property and commercialisation.

Director
A/Professor Chris Cowell ChrisC@chw.edu.au

Research and Development Manager
Karyn Joyner KarynJ@chw.edu.au

Research Executive Support Officer
Amelia Hill AmeliaH@chw.edu.au

Grants and Scholarships Officer
Lyndsey Bray LyndseyB@chw.edu.au

Laboratory Manager
Matthew Laver Matthe1@chw.edu.au

General Enquires
Locked Bag 4001
Westmead NSW 2145
Phone: (02) 9845 1400
Fax: (02) 9845 1317
Research@chw.edu.au
www.kidsresearch.org.au