

## Genes plays a key role in childhood leukemia

Collaborative research between St James's Hospital, Trinity College Dublin and Our Ladys Childrens' Hospital Crumlin (OLCHC) was recognised by an award as judged by an International panel, at the 7th International Cancer Conference ([www.cancerconference.ie](http://www.cancerconference.ie)) which took place in Dublin recently. The research, which focused on how an increased knowledge of key genes implicated in childhood leukemia can be relevant to disease prognosis and response to therapy, was performed by Jacqueline Ryan in the laboratory of Prof Mark Lawler, Institute of Molecular Medicine, St James's Hospital and Trinity College Dublin in collaboration with Prof Owen Smith and colleagues at OLCHC and Dr Paul Browne and Prof Shaun McCann at St James's Hospital.



Ms Jacqui Ryan receiving her award at CANCER 2009 from Mr John McCormack, CEO Irish Cancer Society

The researchers performed a detailed evaluation of how detection of minimal residual disease using sophisticated molecular techniques in children who have undergone chemotherapy for childhood acute lymphoblastic leukaemia can provide valuable information on those patients at risk of relapse and those patients who will be long term disease survivors, based on their molecular response to therapy. The data from this analysis, the most comprehensive to date in a cohort from a single hospital, treated with a uniform therapeutic approach, has

recently been published in the *British Journal of Haematology*. Furthermore, employing gene expression profiling analysis, which provides a molecular snapshot of the important genes implicated in the patient's therapeutic response, the researchers have now identified a number of novel genes that may help identify good and poor risk patients. Commenting on the findings, Prof Owen Smith, Consultant Paediatric Haematologist, OLCHC and Professor of Haematology Trinity College Dublin " *The manipulation of such molecular biological technologies not only allow us to more accurately diagnose different subtypes of childhood leukaemia but also allows us to risk stratify such children, thus allowing for an individualised treatment approach that has resulted in more cures with less toxicities.*"

The research was supported by the Children's Leukaemia Research Project (CLRP) , a charitable organisation which funds research into the childhood leukaemia, with the Higher Education Authority also providing funding. " *The Children's Leukaemia Research Project are proud to be associated with this research, highlighting that funds which we raise are invested in research that is published in well regarded journals, recognised by the international research community and has potential relevance to patients with leukaemia*" said Dave Gough Secretary, CLRP.

This research was performed in association with ICORG, All-Ireland Co-operative Oncology Research Group and represents a prime example of the translational research approach that is being promoted by ICORG. According to Dr Brian Moulton, CEO of ICORG "*This is the first translational research project that has gone through the Translational Disease Specific Subgroup and led to a significant [publication](#) in a peer review international journal and demonstrates the potential for Irish researchers to perform high quality translational research*"

The lead investigator on this study, Prof Mark Lawler, emphasised how a collaborative approach, "*involving scientists and clinicians in different institutions, with the valuable input of a cooperative clinical trials organisation and the vital support of charities and higher education funders, has allowed a more detailed knowledge of the biology of leukemia to be determined which may translate to better care for children with this disease*".