NATIONAL RESEARCH CENTRE FOR GROWTH AND DEVELOPMENT

MEDIA RELEASE

Thursday, 30th June 2010

Revaluing genetic 'junk' – public lecture

The National Research Centre for Growth and Development (NRCGD) is pleased to announce that **Professor John Mattick** AO FAA FRCPA (Hon) of the University of Queensland's Institute for Molecular Bioscience will present a public lecture on the central role of regulatory RNA in human evolution and development as the final event of the NRCGD's 2010 Science Symposium.

For many years the received view in molecular biology was that 'DNA makes RNA makes protein', with RNA viewed simply as an intermediary. However, it has recently become evident that our cells produce enormous numbers of RNA molecules that do not code for proteins but instead regulate embryonic development. Non-coding RNAs also appear to be central to brain function and to be heavily involved in the mechanisms through which the environment can cause long-term effects on our health and that of our descendants. We are beginning to realise that what has previously been dismissed as junk may well hold the key to understanding human evolution, development, and cognition, as well as our individual idiosyncrasies and susceptibilities to disease. Professor Mattick's work and ideas in this area have received coverage in major scientific journals including *Science, Nature*, and *Scientific American*, along with the likes of *The New York Times*.

About Professor John Mattick: Professor John Mattick has worked all over the world, including the Universities of Cambridge, Oxford, Cologne, Strasbourg, and Queensland, before establishing and becoming Foundation Director of the Australian Genome Research Facility and the Institute for Molecular Bioscience in Brisbane, Australia. Among his many awards are an Honorary Fellowship of the Royal College of Pathologists of Australasia, appointment as an Officer in the Order of Australia (AO), the Centenary Medal of the Australian Government, and the inaugural Gutenberg Professorship of the University of Strasbourg. He is an Associate (Foreign) Member of the European Molecular Biology Organization (EMBO) and a Fellow of the Australian Academy of Science. He was a member of the NHMRC Research Committee and Australian Health Ethics Committee from 1997–2003, and currently sits on the scientific advisory boards of several research institutes, including the Liggins Institute of the University of Auckland.

Professor Mattick has worked in a range of areas in molecular biology, including mitochondrial DNA replication, multifunctional enzymes, recombinant vaccine development, bacterial pathogenesis, and, for the past decade, on the role of non-coding RNA in the evolution and development of complex organisms.

About the NRCGD: The NRCGD is a Centre of Research Excellence (CoRE) bringing together developmental, biomedical, animal and population scientists from across New Zealand to address questions surrounding the biology of growth and development, with a focus on the implications of gene-environment interactions in early life for human health and for productivity in farm animals.

Increasingly research suggests that environmental influences before, during and shortly after pregnancy can alter the offspring's development in ways that may go on to affect life-long health and potentially the health of the next generation. In humans these alterations can appear as increased risks of developing conditions such as obesity, type 2 diabetes and heart disease later in life; in farm animals, the same changes may have downstream effects on health and production characteristics.

Through high-quality research into growth and development we seek a better understanding of the biology of the early-life period, and of its impact on life-long health. We actively support the application of our findings in the clinical, agricultural, public policy and education sectors, to help bring economic and social benefits to all New Zealanders. In addition, we use our research as the basis for innovative educational and outreach programmes that reach thousands of young New Zealanders each year, increasing scientific literacy and participation, and providing a route to increased health awareness in our communities.

Summary of details
Public lecture title: (R)evolutionary Genetics: the Central Role of Regulatory RNA in Human Development
Speaker: Professor John Mattick AO FAA FRCPA (Hon)
Date: 5th August, 6pm
Location: Fale Pasifika, 20-26 Wynyard St, Auckland
Note: Please RSVP to info@nrcgd.org.nz

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