

Novel approaches to addressing genetic and environmental factors associated with diabetes and obesity

Date: Tuesday 5 – Friday 8 July 2011

Rotorua, New Zealand

This is a 'Call for Participants' to take part in a four-day interactive workshop (Sandpit) to look for new and innovative ways to investigate the genetic and environmental factors associated with diabetes and obesity

Closing Date for applications: 9 May 2011 (5pm in applicant's country)

Introduction

The Europe-New Zealand bilateral project FRENZ¹, in conjunction with the Health Research Council of New Zealand (HRC) invite expressions of interest to participate in an interactive workshop ('Sandpit') to be held at the Wai Ora Resort in Rotorua, New Zealand from Tuesday 5– Friday 8 July 2011².

The Sandpit will bring together leading New Zealand and European researchers from a diverse range of disciplines and backgrounds to brainstorm innovative research ideas addressing diabetes and obesity. The expected outcome is new research directions, approaches and collaborations that are translated into funding applications.

Participants will be expected to engage constructively in dialogue with each other, the Sandpit Facilitators, Director and Mentors to develop collaborative research ideas and approaches.

The Sandpit mechanism has been adapted from that utilised by the UK Engineering and Physical Sciences Council (EPSRC) 'Sandpit' model and previously applied by FRENZ within a New Zealand setting.

Research approaches and themes identified during the Sandpit process may be subsequently submitted for funding to a funding mechanism such as HRC's annual funding round and the European Commission's Seventh Framework Programme for Research and Technological Development (FP7) Cooperation Work Programme (Health)³. Additionally, the Sandpit is supported by HRC, which seeks to offer mobility funding to New Zealand based researchers to continue to develop research collaborations post-Sandpit.

¹ The FRENZ (Facilitating Research cooperation between Europe and New Zealand) project has received funding from the European Community's Seventh Framework Programme [FP7/2007-2013] under grant agreement n° 222665; and from the New Zealand Ministry of Science and Innovation.

² Applicants should note that Sandpit participants should arrive by **4pm on Monday 4 July 2011** for registration and introductions.

³ FP7 Cooperation Work Programme: Health 2011

Background to the challenge

World Health Organisation (WHO) data show that obesity has reached epidemic proportions globally, with approximately 1.5 billion adults overweight, more than 200 million men and nearly 300 million women defined as obese⁴. A key risk factor for numerous chronic diseases, obesity is a major public health concern.

Diabetes is also fast emerging as one of the biggest healthcare concerns of the 21st century. Estimates of current and future global diabetes prevalence show that the total number of people with diabetes is projected to rise from 171 million in 2000 to 366 million in 2030⁵. According to WHO, diabetes is also going to reduce life expectancy for the first time in 200 years.

A complex interplay of genetic, social and environmental factors is driving the global explosion in type 2 diabetes. Current research also demonstrates that understanding the obesity epidemic is an equally complicated task⁶. In light of this complexity, it is clear that policy makers, health professionals, and academics all face challenges in understanding these epidemics and devising effective counter strategies.

European governments are also struggling with the growing social and economic consequences of increases in obesity and diet related diseases. Diet and health are now key priorities for most EU Member States seeking to deal with increases in obesity and diet-related chronic diseases amongst their populations, including as part of the agenda to cope with an ageing population. In 2008, across the 27 countries of the European Union, 59% of adult men and 48% of adult women were either overweight or obese⁷.

With the recent release of the Europe 2020 Strategy⁸ and Innovation Union Communication⁹, there is an increase in focus on the coordination and translation of research into added value and these strategies will have a role in shaping the future of research supported through the rest of FP7 and future Framework Programmes.

A major recent initiative to enhance cooperation in the R&D area in Europe, known as 'joint programming' is a process by which Member States engage in defining, developing and implementing a common strategic research agenda, based on a common vision of how to address major societal challenges that no Member State is capable of resolving independently.

One such Joint Programming Initiative (JPI) is in the field of nutrition, food and health and aims to provide for coordination of research on the impact of diet and lifestyles on health. The vision of the JPI on 'A healthy diet for a healthy life'¹⁰ is that in 2030 all Europeans will have the motivation, ability and opportunity to consume a healthy diet from a variety of foods, have healthy levels of physical activity and the incidence of diet-related diseases will have decreased significantly.

The European Commission will also be supporting international efforts to coordinate research in diabetes and diabetes at the global scale through the support of Specific

⁴ <http://www.who.int/mediacentre/factsheets/fs311/en/index.html>

⁵ Wild S. et al 2004. Global Prevalence of Diabetes: Estimates for the year 2000 and projections for 2030. *Diabetes Care* 27: 1047 -1053.

⁶ Sassi F. et al. Obesity and the Economics of Prevention: Fit not Fat. OECD: 2010.

⁷ International Association for the study of Obesity (IASO).
http://www.iaso.org/site_media/uploads/v2PDFforwebsiteEU27.pdf

⁸ http://ec.europa.eu/europe2020/index_en.htm

⁹ http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=home

¹⁰ Commission recommendation of 28 April 2010 on the research Joint Programming Initiative 'A healthy diet for a healthy life'. Brussels, 28.04.2010. C(2010)2587 final and J European Union 1.5.2010 (2010/250/EU).

International Cooperation Actions (SICAs) and programme level cooperation in diabetes and obesity research.¹¹

In New Zealand, the number of people diagnosed with diabetes exceeds 200,000 people (predominantly type 2 diabetes). Māori and Pacific peoples have a higher risk for developing diabetes. Recently, the cost of diabetes to New Zealand's health budget was estimated to increase from 4% in 2000 to 14% by 2020, equating to more than one billion dollars extra every year¹².

There has also been a rise in obesity in New Zealand in recent decades - from 9% (males) and 11% (females) in 1977 to 20% and 22% respectively in 2003. The 2006/07 New Zealand Health Survey found that one in three adults were overweight (36.3%) and one in four obese (26.5%). New Zealand's adult obesity rate was third in the world after the USA and Mexico¹³.

A new OECD report entitled 'Health Data 2010: How Does New Zealand Compare' warns that the growing prevalence of obesity in most OECD countries, including New Zealand, may well lead to higher health care costs in the future. As with diabetes, certain populations demonstrate higher rates of obesity, including Māori and Pacific peoples. The burden of obesity on the New Zealand healthcare system is significant. In 2003, the Ministry of Health reported that the direct costs of obesity to the health sector were approximately \$135 million a year¹⁴.

Diabetes and obesity are a key research and policy priority for New Zealand. HRC health research policy also places a particular emphasis on research that is collaborative and multidisciplinary and that has the potential for significant improvements in health outcomes and demonstrable advances in knowledge. HRC also prioritises health research that seeks to reduce inequalities for those facing the greatest burden of disease¹⁵.

The Sandpit Challenge

The Sandpit challenge is to **develop novel research ideas and collaborative research directions to address the genetic and environmental factors associated with diabetes and obesity.**

As the Sandpit is designed to encourage a multi-disciplinary and paradigm-shifting approach, it is anticipated that these research ideas and directions will represent new and innovative ways to address the growing public health challenge presented by diabetes and obesity. This may include working closely with key stakeholders and developing a new approach that involves collaborators from disciplines not typically partnered.

In order to meet the demands and expectations of this Sandpit, two specific outcome measures have been developed. These are:

- the development of new and innovative linkages between and across New Zealand and European research teams
- the formation of novel research ideas and directions for diabetes and obesity.

¹¹ ftp://ftp.cordis.europa.eu/pub/fp7/docs/wp/cooperation/health/a-wp-201101_en.pdf

¹² <http://www.grownups.co.nz/read/health/conditions/diabetes-epidemic>

¹³ http://www.diabetes.org.nz/news/oecd_health_data_2009_how_does_new_zealand_compare

¹⁴ Inquiry into Obesity and Type 2 Diabetes in New Zealand: Report of the Health Committee (2007), Presented to the House of Representatives, Sue Kedgley, Chairperson (also see <http://www.moh.govt.nz/moh.nsf/238fd5fb4fd051844c256669006aed57/a7921228c2922222cc256d5d0010c855?OpenDocument>)

¹⁵ Applicants should refer to the Frequently Asked Questions (FAQ) for the Sandpit for further information on the HRC's Annual Funding Round.

At the end of the Sandpit, it is anticipated that researchers will have ideas that are suitable for submission to available funding mechanisms in New Zealand and Europe, including FP7 and the HRC's annual funding round opening in late September 2011. The HRC will also make mobility funding available to facilitate the on-going development of collaborative research activities.

It is anticipated that these research ideas will:

- be future-oriented and represent forward thinking;
- facilitate and emphasise prediction, prevention, personalization and participation in health care for diabetes and obesity;
- generate new products, therapies and/or interventions;
- have clear potential for a positive health impact for particular communities/populations including the potential for reducing inequalities in health-related outcomes; and
- be collaborative and truly multidisciplinary in nature.

The FRENZ Sandpit

The FRENZ Sandpit concept is to organise interactive workshops on particular topics, involving up to sixteen participants from Europe and New Zealand. The aim of this Sandpit is to identify opportunities for collaboration through the formation of projects in the frame of *Novel approaches to addressing Genetic and Environmental Factors associated with Diabetes and Obesity*, and within the context of the Joint EU-NZ Science and Technology Cooperation Agreement.

The coordination of this Sandpit is supported by the European Commission and the New Zealand Ministry of Science and Innovation (MSI) through the FRENZ project. Additionally, the Sandpit is supported by HRC, which seeks to offer mobility funding to New Zealand based researchers to continue to develop research collaborations post-Sandpit. These funds will be available through an open and contestable application process and will support travel by the New Zealand researchers to Europe to continue developing their cooperative research strategies. Additional information regarding this fund will be available at the Sandpit event.

Attendance at the Sandpit does not guarantee future research funding.

How will the Sandpit work?

The Sandpit is an intensive, interactive and free-thinking environment, where a diverse group of participants from a range of disciplines and backgrounds gets together for four days – away from their everyday worlds – to immerse themselves in collaborative thinking processes in order to construct innovative approaches.

The nature of the Sandpit requires a high degree of trust between participants in order to gain the breakthroughs in scientific thinking. This trust extends to allowing the free and frank exchange of scientific ideas, some being in the very early stages of development. The aim of the Sandpit is not to discuss ideas that are already well-developed but not yet published. Rather, the goal is to bring individuals from different disciplines together to interact and engage in free thinking on first principles, to learn from one another and create an integrated vision for future research projects. It is expected that the sharing of these ideas would be encouraged within the Sandpit but their confidentiality would be respected outside the Sandpit.

The Sandpit will be led by a Director whose role will be to assist in defining the topics and aid facilitated discussions at the event. The Director will be joined by a small number of Mentors, selected by the Director, in consultation with FRENZ and the HRC, based on their intellectual standing, their impartiality and objectivity, and their broad understanding of and enthusiasm for the Sandpit topic. The Director will be Professor Norman Sharpe, Medical Director of the National Heart Foundation of New Zealand.

The process can be broken down into several stages:

- Defining the scope of the challenges
- Evolving common languages and terminologies amongst people from a diverse range of backgrounds and disciplines
- Sharing understandings of the challenges, and the expertise brought by the participants to the Sandpit
- Taking part in break-out sessions focused on the challenges, using creative thinking techniques
- Capturing the outputs in the form of highly innovative research projects/ideas
- Using “real-time” peer review on those projects/ideas at the Sandpit to determine their value.

The Sandpit will be an intensive event. For the well-being of participants, the venue offers opportunities for relaxation and the timetable will include networking and other activities as a break from the detailed technical discussions.

Who should attend the Sandpit?

Having the right mix of participants influences the success or failure of such an event. Those attending will need enthusiasm and appropriate personal attributes to engage in collaborative research as well as demonstrate an enthusiasm for working at the interface between disciplines.

Applicants are sought from a diverse range of backgrounds, disciplines and spheres of influence. A broad range of expertise is required and applicants should not feel limited by conventional perceptions of known disciplines in this research area: the Sandpit approach is about bringing people together who would not normally interact. We actively encourage people to apply that are experts in their own research areas but have not yet applied themselves to the challenges facing diabetes and obesity research. Potential participants from other disciplines and/or related sectors are also welcome to apply. We encourage all interested applicants to indicate how their expertise can address the challenge of developing novel research ideas and approaches for diabetes and obesity.

Research applicants should be at post-doctoral level and above. It is expected that up to ten participants from Europe will be invited to join approximately six New Zealand participants at this event.

Location and Date

The Sandpit will be held from Tuesday 5 to Friday 8 July 2011 at the Wai Ora Resort, Rotorua, New Zealand. Participants should arrive by 4pm on Monday 4 July 2011 for registration and introductions.

Submission of an application to attend will be taken to indicate that you are available for the whole duration of the specified dates – not including any additional time you may require to recover from travel – and will make a commitment to attend if selected.

The environment will encourage free and open-minded thinking, vital for the purposes of this event. Full details of the venue, how to get there and the accommodation arrangements will be sent to participants on selection.

All accommodation, refreshments, breakfast, lunch and dinner costs will be met by FRENZ. Reasonable travel expenses¹⁶ will also be reimbursed through the FRENZ project. All other travel expenses and incidental costs (such as sundries and bar bill) while at the event must be met by the participant.

If you have any specific requirements with regard to the venue, then please let us know by enclosing details in a covering letter with your application form.

Applying to Participate in the Sandpit

Applications are invited from individual researchers who can contribute to the Sandpit. Up to sixteen **participants** will be selected to take part in the Sandpit. Participants will be chosen to allow representation from both New Zealand and Europe.

Applicants should complete the short Expression of Interest (Eoi) form (**maximum three sides plus CV**), which can be downloaded at: <http://www.frenz.org.nz/AboutFRENZ/Activities/Sandpits/Sandpit2DiabetesandObesity/ExpressionsofInterest.aspx>. Your responses to these questions will be used to assess your application and convince us that you have the suitable skills and attitude to participate in this Sandpit. No further documentation will be accepted.

Please note that we are not just looking for your academic publication or research track record but evidence of how you might approach multi disciplinary problems in a novel way.

The deadline for applications is 9 May 2011

Applications should be submitted electronically to sandpits@frenz.org.nz Please include 'Diabetes and Obesity Sandpit' in the subject line.

No further documentation will be accepted. Please note that late submissions will not be considered further.

Applicants will be informed of their selection for the Sandpit event by the end of May 2011.

Assessing Applications to Attend

Applications to attend will be considered by a Selection Panel (to be advised) in order to ensure a mix of disciplines and experience. Overall, the Selection Panel will seek to ensure that a balance of expertise is present at the Sandpit.

Their assessment will be based on the specific criteria outlined below:

- The ability to develop new, adventurous and highly original research ideas
- The potential to contribute to research at the interface between disciplines
- The ability to work in a team

¹⁶ Up to €3000 for European based participants and around \$300 for New Zealand based participants.

It is therefore important to give evidence of these in your application.

Please ensure you fully complete the EoI form, as this is the **only** information on which potential Sandpit attendees will be selected. It is therefore important to give evidence of your experience against the criteria in your application.

Applicants should show an appreciation of the challenges, the latest research and the current and future issues relating to diabetes and obesity.

Please note that because of the large number of applications expected, we will not be able to give individual feedback to unsuccessful applicants.

Expected Timetable

Call launched	15 April 2011
Call close (expressions of interest)	9 May 2011 (5pm in the applicant's country)
Participant Selection panel final decision	By 31 May 2011
Sandpit:	from 4pm Monday 4 July (registration/introduction) to 4pm Friday 8 July 2011

For Further Information

For further information, advice or queries regarding the format of the event, application procedure and other operational matters please contact:

For topic-related issues:

Fiona KENNING: fkennin@hrc.govt.nz

For logistical or administrative issues:

Gina DEERNESS-PLESNER: gina.deerness-plesner@canterbury.ac.nz