EXPERT LIST FOR INTERNATIONAL CONGRESS OF IMMUNOLOGY – MELBOURNE 21-26 AUG

At a time of Zika virus, the allergy epidemic and the hopes involved with cancer immunotherapy – some of the world's top immunologists will be in Melbourne, Australia for the International Congress of Immunology. Some of the key speakers are:

James Allison is Chairman of Immunology at the University of Texas MD Anderson Cancer Center in Texas, also known as The Texas T Cell Mechanic. He was one of the first to isolate the T Cell Receptor, as well as what turns the T cell (one of the most important cells in the immune system) on and off. His cancer research in the area of immunotherapy led to the successful development of "immune checkpoint therapy," and FDA-approval of the immunotherapy drug Yervoy for the treatment of metastatic melanoma. Last year he won the Lasker Award, often seen as a precursor to a Nobel Prize.

Caetano Reis e Sousa, from the Francis Crick Institute in the UK, has found that giving cancer patients aspirin at the same time as immunotherapy could boost the effectiveness of the treatment. The study, published in Cell late last year revealed that skin, breast and bowel cancer cells often produce a substance which dampens the immune system – and that this substance can be inhibited by aspirin, allowing the immune system to hunt out cancer cells and kill them

Florent Ginhoux, from the Singapore Immunology Network, has shown how immune cell "spies" are created. These spies, or dendritic cells, gather information on viruses, bacteria, cancer and fungal infections. Working with researchers at the Walter and Eliza Hall Institute in Melbourne, knowing how these cells operate will allow scientists to boost the immune response to infections – and to dampen down the immune response which leads to autoimmune diseases such as MS.

Laurie Glimcher, from Cornell University, New York, US, will describe how she and her team have discovered the Achille's Heel of ovarian and some breast cancers which makes these tumors susceptible to the patient's own immunity. Previously these cancers were able to switch off the body's immune cells allowing the tumor to spread. The discovery is one of the first major breakthroughs in the treatment of a disease that kills over 140,000 women each year globally.

Dr Laurie Glimcher is a world leader in cancer immunotherapy. At the end of this year she will take up the prestigious role of President and CEO of the Dana-Farber Cancer Institute in Boston and is also on the panel advising Vice President Joe Biden on the Cancer Moonshot 2002 program.

Aviv Regev, Director of the Klarman Cell Observatory (KCO) and a professor of biology at Massachusetts Institute of Technology, thinks about the immune system as if it were an orchestra: "Some instruments need to play strong, others need to pull back or push forward. It all has to form a harmony and this harmony changes with time," she said. "Everything has to know its role and it has to be orchestrated — except you don't have a conductor." Instead, each

element of the immune system — the individual T cells and all of the proteins they interact with, for instance — is guided by the actions of every other element.

Josef Penninger, from the Institute of Molecular Biology in Austria, was named by Esquire Magazine in 2007 as "The Greatest Scientist of Our Time". "When he wins the Nobel Prize for discovering God, he'll feel his own troubled soul…nestled between his heart and his thymus, protected by an army of T cells." Scientifically, his basic approach is to genetically manipulate and change genes in mice and to determine the effects of these mutations in the development of the whole organism and in diseases.

David Artis, Michael Kors Professor of Immunology at Weill Cornell University in New York, recently led a multi-institutional collaboration isolating ways to "starve" the immune cells that promote allergies. The discovery, published in April, could lead to new ways to treat conditions from hay fever to food allergies and chronic obstructive pulmonary disease and asthma.

Thirumala-Devi Kanneganti, from the St Jude Department of Immunology in Tennessee, has shown that giving colon patients "good bacteria" can slow the progression of the disease. The research was published in Cell last June.

Pierre Miossec, from the University of Lyon, Lyon, France, was part of the group to first identify interleukin 1 in the synovial fluid of patients with rheumatoid arthritis. He recently wrote in BMJ about testing old drugs used in new more modern ways for the treatment of RA.

Ian Fraser, developed and patented the basic technology behind the HPV vaccine against cervical cancer, now marketed as Gardasil and Cervarix; which was the second cancer preventing vaccine, and the first vaccine designed to prevent a cancer. Frazer is Chair of the Scientific Advisory Council of the International Agency for Research on Cancer.

For further information contact Tania Ewing on 0408378422 or via taniewing@taniaewing.com