University of Queensland's smart fellows all women(图)

http://www.firstlight.cn 2007-07-10

10 July 2007，Three UQ scientists have won Smart State Fellowships to continue groundbreaking research on rheumatoid arthritis, cerebral palsy and a hospital superbug.

The researchers, Associate Professor Roslyn Boyd, Dr Christelle Capini and Dr Amanda Mabbett have each received a $150,000 Queensland Government Fellowship for their three year projects.

They were presented with their Fellowships by Queensland's State Development Minister John Mickel at the Queensland Room in the State Government's Executive Building this afternoon.

Associate Professor Rosyln Boyd (Newstead) is a paediatric physiotherapist who received a Victorian Premier's award for Medical Research in 2004 for helping muscle spasms in children with cerebral palsy through a combination of Botulinum toxin A injections and physiotherapy.

Associate Professor Boyd joins UQ's School of Medicine from the Murdoch Children's Research Institute in Melbourne.

She will oversee a $2.25 million cerebral palsy research project mostly funded by a $1.8 million Royal Children's Hospital Foundation donation with support from UQ and Queensland Health.

She will conduct three population-based studies of young children, teenagers and adults with cerebral palsy in Queensland to improve their health outcomes and quality of life.

"We will look at the relationship between the brain injury and their outcomes such as motor development, how they participate in society, their impact on quality of life, their functioning in society such as their ability to mobilise and to use their impaired limbs," Associate Professor Boyd said.

Some of her novel rehabilitation includes circus training through Circus Oz teaching children who have had a stroke at birth to juggle, use devil sticks, ropes and special trapeze.

She said these circus practices were modified to train the use of a child's impaired hand and their brain reorganisation measured using advanced brain imaging techniques.

Dr Amanda Mabbett (Coorparoo) is researching new ways to tackle the antibiotic resistant super bug Staphylococcus aureus or golden staph, which kills thousands of hospital patients each year.

Dr Mabbett, a researcher in the laboratory of Associate Professor Mark Schembri in UQ's School of Molecular and Microbial Sciences, is working on a $300,000 research project with the Princess Alexandra (PA) Hospital funded by the Fellowship, UQ and philanthropic companies.

She said her aim was to disrupt the biofilm growth of golden staph.

Biofilms are a collection of cells working as a community that enable the superbug to spread and grow on medical devices.

Her goal is to find a method to stop Staphlococcus aureus biofilms growing on real and synthetic heart valves, which if successful, could also be used on all surgical implants, on surgical site infections and general staph infections.

"Bacterial cells growing as a biofilm are thousand times more resistant to antibiotics than if they were not growing as a biofilm," Dr Mabbett said.

She said she had a collection of superbug isolates that have caused heart valve disease (endocarditis) that she would use for testing.

Her long-term goal is to create a potential vaccine for golden staph which she said was many years away.

Dr Christelle Capini (Kangaroo Point) is working on a new therapy that could improve treatment of rheumatoid arthritis and possibly other autoimmune diseases.

Dr Capini is a researcher in the Dendritic Cell Biology group at UQ's Diamantina Institute for Cancer, Immunology and Metabolic Medicine, at the PA Hospital.

Her $450,000 research project is funded by the Arthritis Foundation, UQ and the Fellowship.

Rheumatoid arthritis is a disease where the immune system attacks itself causing sore joints, particularly hands, feed and knees and usually circulation problems.

Dr Capini said a vaccine for the disease consisting of special immune cells called dendritic cells could be successful but this would be e xpensive and hard to ensure consistent quality.

She has developed an alternative therapy which uses liposomes or lipid bags which can carry and deliver treatments more easily.

“We can use liposomes to carry antigens and specific inhibitors which is basically a message to the patient’s own dendritic cells to dev elop the appropriate response to the disease,” Dr Capini said.

Her method has significantly reduced arthritis in mice and other scientists are investigating the same technology for diabetes treatment.

She said the Fellowship would allow her to conduct further tests on its effectiveness in animals, eventually leading to human clinical trial s at the PA Hospital.

Seven Smart State Fellowship winners, along with three Clinical Research Fellows and three university internships were announced toda y in round two of the Smart State Innovation Projects Fund.

The Fund aims to build world-class research facilities, attract quality scientists to Queensland and stimulate cutting edge research.

存档文本