

## Clem Jones Centre for Regenerative Medicine

### RESEARCH PRODUCTIVITY

Across 2019, the Centre was active in development of a stem cell therapy for retinal disorders like age-related macular degeneration, through retinal cell replacement for vision improvement.

Another area of investigation was the study of spleen regeneration from stem cells as a means to replace immune cells important in controlling blood-borne infections.

Associate Professor Nigel Barnett and Professor Helen O'Neill together with Professor Steven Bottle (QUT) were successful in application to the National Health and Medical Research Council (NHMRC) for an Ideas grants valued at \$383,000 for the project entitled: "Retinal stem cell therapy in the immunoprivileged eye".

The Centre was also successful in application for Infrastructure funds from Bond University, receiving grants for electroretinography equipment and for upgrade to the animal holding room.

In 2019, researchers published eight major research papers. A PhD thesis entitled 'Chemical differentiation of pluripotent stem cells to retinal pigment epithelium' was successfully submitted by Jason Limnios. A Master's thesis entitled 'Steady-state hematopoiesis in the spleen' was successfully submitted by Jackie Kaden. A new PhD student, Ms Teresa Mammone, was recruited to join the Centre in 2020 to work on a stem cell therapy for Age-related Macular Degeneration (AMD).

A new Vision Lab was established and equipped with a Micron retinal imaging microscope and electroretinography equipment for testing retinal function. Other improvements to laboratory facilities include upgrade to the animal holding room to accommodate rats as well as mice, and installation of a liquid nitrogen cell storage facility to store frozen stocks of both stem cells and differentiated cells. A Senior Research Assistant, Ms Cassie Rayner, was appointed to support retinal research with resultant improvement in experimental and research capacity in vision science.

### CENTRE ACTIVITIES

Several visitors came through the Centre to give seminars or to hold meetings with staff: Dr Ricardo Natoli (ANU), Mr Matthew Spitzer (Mater Hospital), Professor Steven Bottle (QUT), Mr Don Cutmore and Ms Janet Price.

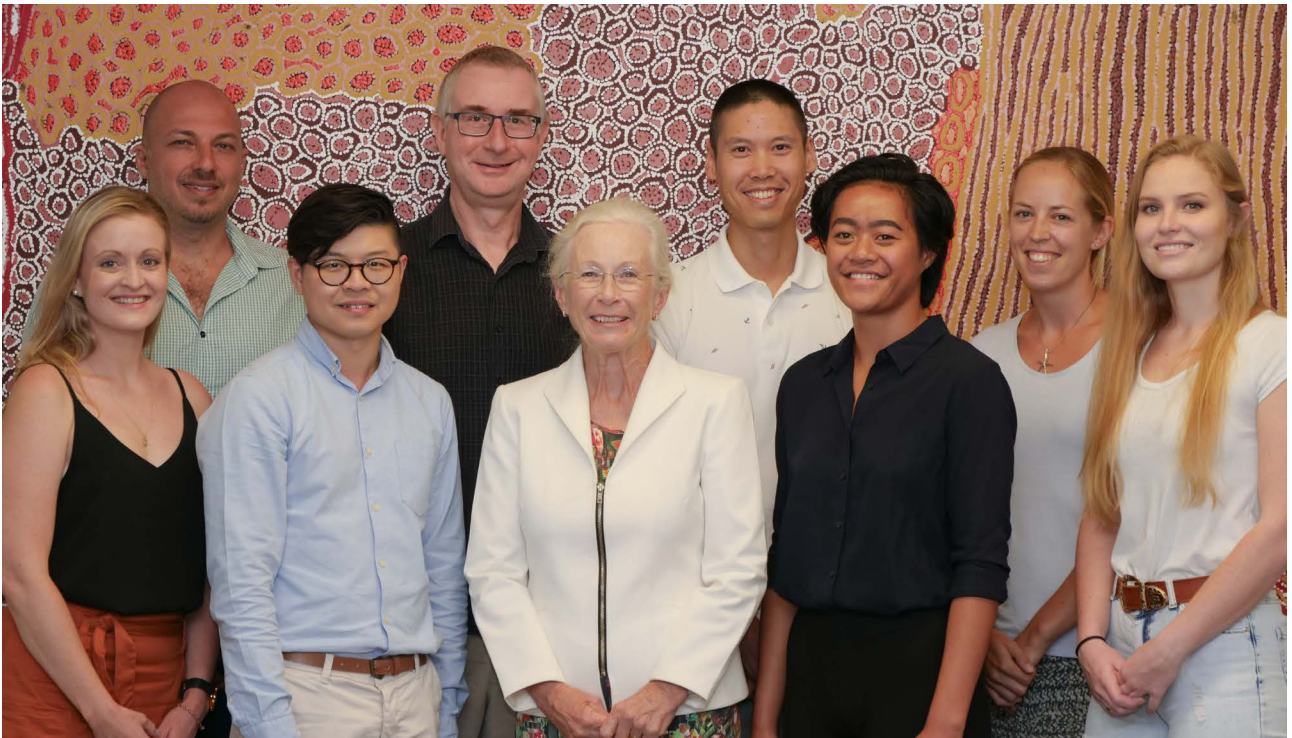
The Director, Professor Helen O'Neill, met with several commercialization groups with a view to formulation of a plan for moving the preclinical testing of cell on membrane implants for AMD into clinical trials.

Staff in the Centre (Dr Jon Tan, Dr Jason Limnios, and Ms Christie Short) contributed to teaching in the Biomedical Sciences Program in the area of stem cells and regenerative medicine, and will contribute more time to teaching in the coming year. Ms Karin Tourle, Centre Manager, organised a monthly Biomedical Science seminar series showcasing both internal and external speakers. Associate Professor Barnett and Dr Limnios contributed public lectures on Retinal Disease during Bond University's Research Week. Dr Limnios was also selected to attend the 'Summer by Design' intensive course on commercialisation of research at the University of Toronto conducted by the Centre for Commercialisation of Regenerative Medicine (Canada).



## CENTRE STAFF AND STUDENTS

- Cora Cutmore Distinguished Professor, Centre Director, Helen O'Neill,
- Associate Professor Nigel Barnett, (Vision)
- Assistant Professor Jonathan Tan, (Hematopoiesis)
- Dr Jason Limnios, Postdoctoral Research Fellow (Stem Cell Biology)
- Ms Karin Tourle, Centre Manager, Senior Research Assistant (Hematopoiesis)
- Ms Cassie Rayner, Senior Research Assistant (Vision)
- Ms Christie Short, PhD student (Hematopoiesis)
- Ms Jackie Kaden, Masters student (Hematopoiesis)
- Ms Lucie Yuan, Volunteer Researcher (Hematopoiesis)
- Sibi Narayanan, MD student (Hematopoiesis)
- Jae Sung Lim, MD student (Hematopoiesis)



(Left to right) Ms Cassie Rayner, Dr Jason Limnios, Dr Hong Kiat Lim, Associate Professor Nigel Barnett, Cora Cutmore Distinguished Professor Helen O'Neill, Dr Jonathan Tan, Ms Christie Short, Ms Karin Tourle, Ms Jackie Kaden.



[bond.edu.au](http://bond.edu.au)

CRICOS Provider Code 00017B

Clem Jones Centre for Regenerative Medicine  
Bond University  
Gold Coast Queensland 4229  
Australia