# The Australian Society for Medical Research

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"Tissue Remodelling: Current Understanding and Future Therapeutic Targets"
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## A NEW TREATMENT FOR KIDNEY DISEASE

**Dr. Sharon Ricardo** – Group Leader, Renal Regeneration Group, Monash University, Victoria.

**Dr. Ricardo** and her team are developing new cell-based therapies that together with repair growth factors may offer alternatives to kidney transplantation.

**In 2006, Chronic Kidney Disease in Australia cost the health system AU$1.8 billion and it has been predicted to reach AU$4.7 billion per annum by 2010".**

*Dr Ricardo said "Currently the only treatment available is long-term dialysis or kidney transplantation but given the poor quality of life associated with dialysis huge healthcare costs and the growing list for organ transplants…there is an urgent need for new therapies"*

Studies have shown that genes important in kidney development are also vital in regeneration of the kidney as an adult.
*Dr Ricardo said "There is growing evidence that these genes may "switch on" during kidney repair".* We have shown that a growth factor called colony stimulating factor 1 (CSF1) can stimulate the growth of a developing kidney, promote active repair of damaged kidneys and recover kidney function.

**"We are interested in the potential of kidneys to repair themselves and the ability of CSF1 to reverse the disease may provide insights into this process".**

## IT'S ALL IN THE SCAFFOLD!

**Dr. Hala Zreiqat -** Head, Tissue Engineering & Biomaterials Research Unit, University of Sydney, NSW.
**Zreiqats** team is working towards engineering novel biomaterials and 3D scaffolds for treating diseases that affect bone and cartilage.

Osteoarthritis affects as many as 3 million people in Australia, representing about 15% of the population. *Dr. Zreiqat said* ***"Currently available treatments of bone defects have considerable drawbacks*** *".*

Current therapeutic approaches to repair damaged bone include the implantation of metal devices and ceramic based implants.

Dr. Zreiqat said that *"massive bone defects are a great challenge to reconstructive surgery. Developing synthetic scaffolds that promote the formation of healthy bone and cartilage is becoming increasingly important in the orthopaedic and maxillofacial surgery".*

Novel, highly porous and mechanically strong **scaffolds** that promote the migration and formation of bone cells have been developed. *"These new technologies will have a major global impact on the quality of life of millions of people"*

Abstracts available - Interview opportunities
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