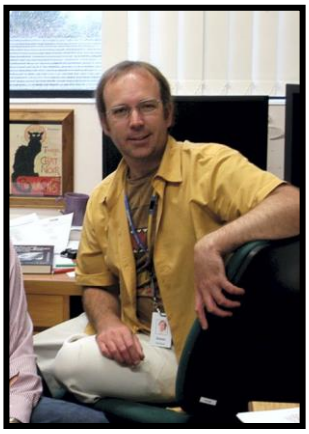
Institute of Medical Biology
A*STAR

Seminar Announcement

- All Are Welcome -



Speaker: **Dr Duane Harland**
Senior Scientist, Lincoln Research Centre,
AgResearch Limited, New Zealand

Title : **"Connecting function to development in hair from cross-links to keratin liquid crystals"**

Date : **22 Feb 2016 (Monday)**
Time : **2.30pm – 3.30pm**
Venue : **Creation Theatrette, Matrix Level 4, Biopolis**
Host : **Dr Tom Dawson**
(Tel: 6407 0166, email: thomas.dawson@imb.a-star.edu.sg)

Abstract of the Seminar:

Hair is an amazing bio-material constructed from a highly modified tissue within a miniature organ - the hair follicle. We are interested in how the functional properties of hair, its mechanical and chemical resistance and its morphology are linked to the hair's proteins and nano-scale structures.

This talk will focus on some recent research in which we used proteomic mass spectrometry to identify labelled disulfide bonds in order to map on which bonds on which proteins in the hair are most vulnerable to chemical and mechanical stress on the fibre (effectively fibre function). We will then shift focus to our ongoing studies on fibre development. The latter work involves a mixture of proteomics, transmission electron microscopy, light microscopy and immunocytochemistry. The ongoing research continues to throw up new discoveries about tissue development and self-assembly of natural nano materials.

About the Speaker:

Dr. Harland is a Senior Research Scientist in AgResearch Limited. His laboratory is primarily interested in creating and improving the value of wool-based products in New Zealand. Using his extensive experience and knowledge in electron microscopy and digital image analysis methods, he investigates the protein composition, structure and biology of wool and hair.