

# Research Seminar

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## Ophthalmic Bioengineering: Materials and Devices

- Date : 12 February 2018 (Monday)  
Time : 3:30 pm – 4:30 pm  
Venue : Room BC301, The Hong Kong Polytechnic University  
Credit Hour : 1 (CPD for Optometrists)

### Abstract

The loss of sight is a very debilitating condition and is becoming an increasing problem as the population ages resulting in significant loss of independence for the people concerned. Biomaterials have a role in various treatment options and developments in the properties of the materials have the potential to lead to improved clinical results. This presentation will discuss cell transplantation strategies that are being investigated for treating retinal conditions such as age-related macular degeneration as well as surface ocular disorders influencing both the cornea and the conjunctiva. It will discuss how this can be achieved by seeding cells onto an artificial substrate and transplanting the substrate and cells as a single structure and how optimisation of the substrate properties is key to the success of these strategies. It will also discuss how some of this research has led to the development of antimicrobial bandage contact lenses and a new corneal cross-linking treatment for keratoconus. Finally it will introduce a study on the design of a dark adaptometer to allow this diagnostic procedure to be more user friendly to both practitioner and patient.