

# ICM Research Seminar

## Wednesday 29<sup>th</sup> November

### Thomas Hallam

(Prof. D. Kavanagh, Dr K. Marchbank)

#### **Personalised management of age-related macular degeneration by identification of high-risk genetic variants in complement factor i**

Age-related macular degeneration (AMD) is a progressive, neurodegenerative disease and the most common cause of irreversible blindness in the developed world, afflicting 30-50 million people. Several pivotal studies have associated quantitative and functional genetic variants of an important inhibitor of the alternative pathway of complement, complement factor I (*CFI*), with AMD. Interrogating the genetic basis of dysfunction may facilitate the deduction of risk *CFI* variants and the ability to treat patients on an individualised basis

### Matt Jackson

(Prof. M. Birch-Machin, Dr A. Laurence)

#### **Impacts of oxidative stress on human skin fibroblast bioenergetics**

Environmental pressures cause an increase in oxidative stress in the skin resulting in damage to key cellular bioenergetic pathways. This compromises dermal fibroblast viability and function, driving cellular senescence and ultimately manifesting as visible skin ageing. This project aims to understand the bioenergetics of extrinsic skin ageing and test the feasibility of the use of antioxidants to prevent oxidative stress induced decline.

### Dr Aaron Gardner

(Dr M. Brodlie)

#### **The role of ceramide in the pathogenesis of cystic fibrosis lung disease**

Cystic fibrosis is the most common life limiting genetic disorder in Western populations, with approximately 10,000 people in the UK living with the disease today; however, our understanding of the pathogenesis of cystic fibrosis lung disease (CFLD) remains limited. Recently accumulation of the sphingolipid ceramide has been implicated in the development of CFLD through unknown mechanisms. Here we identify key dysregulations in ceramide metabolism which may promote CFLD initiation and progression.

### Chair: Dr Michael Drinnan

**Dental Lecture Theatre F, Medical School**  
**1pm - 2pm**