Selective Printing of Molecules and Generating Images on Curved Polymers

A global healthcare company with a history of successful academic collaborations is looking to identify research focused on printing molecules and/or images on polymers for use in contact lenses and intraocular lenses. This interest covers a wide range of polymers, such as hydrogels, silicone hydrogels, acrylics, and injection moulded plastics.

Research Approaches of Interest

1) The ability to print/transpose an image with high resolution (<10μm) on a curved polymer, e.g. onto a silicone hydrogel contact lens, with the aim of enhancing features/the appearance of the eye.

   • This can incorporate either one or multiple images, which can be selectively applied to specific locations on the curved polymer
   • Pigments, dyes or other molecules (which can be organic, soluble or inorganic) with particle sizes up to 50μm are suitable
   • These images can be created with multiple primary or blended colours, and can be multi-layered, and images can be incorporated either during or after the lens fabrication process
   • Chemical engineering and physical chemistry approaches in printing that could be repurposed for contact lenses

2) Technologies that could benefit eye health, such as wetting agents or therapeutic agents that could be incorporated into the printing/polymer contact lens areas of interest.

   • As the solutions to be printed may contain monomers or macromers, it is acceptable to use higher viscosity printing solutions to accommodate this (up to 1,000 cP)
   • Images that are resistant to being rubbed off/removed during sterilisation processes would be ideal, but not essential

Stage of Development

Opportunities from basic through to phase I of clinical trials are within scope.

Out of Scope

• ‘Smart’ contact lenses

Opportunity for Collaboration

Our client is seeking a partner/collaborator with unique expertise or assets in the field of contact lens/polymer printing and fabrication. The ideal scenario would involve starting collaborations with the teams behind the submitted opportunities.

Submission Information

Submission of one page, 200-300 word briefs are encouraged, along with other relevant materials such as publications, patents etc. In submitting to this campaign, you confirm that your submission contains only non-confidential information.