"How does corneal structure determine vision?"

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Abstract:
The cornea is a remarkable connective tissue. Extremely tough, transparent and precisely shaped, it is responsible for two-thirds of the eye's light focussing in terrestrial vertebrates. Corneal physical properties are governed by a unique layered structure of fibrillar collagen. This architecture may be probed via diffraction methods that harness the powerful x-rays produced by Synchrotrons. The lecture will summarise the use of x-ray diffraction methods to determine corneal structure, and how this information may be used to understand corneal function and its alteration due to disease and surgery.