Flexible Strain sensor  
UTA (13-02)

Technology Need:
With ageing population, the prevalence of cataracts and glaucoma is increasing—which can lead to irreversible damage and loss of vision. Cataracts alone afflict more than half of the U.S. population over 80 years old. There is a need for a pressure monitoring system like a strain sensor that can be embedded with implantable intra ocular lenses (IOL’s) to detect strain and pressure changes in the lens instantaneously. As compared to the current state of art, the sensors need to be highly flexible and real time based for high performance.

Solution/ Offering:
Researchers here at UT Arlington have developed a bio compatible strain sensor that can be embedded on implantable intra ocular lenses. The sensors have simple two-step fabrication process that is easily scalable and can be embedded directly with passive and active wireless communication. These sensors have the capability of reducing the structural restrictions of conventional sensors. Indeed, the flexible strain sensor can be formed to have nearly any shape.

Meet the Inventor
Jung-Chih Chiao received his Ph.D. degree in Electrical Engineering from California Institute of Technology in 1995. He is a Professor at Department of Electrical Engineering, UT Arlington. He has published numerous technical journal and conference papers. He is one of the authors for the book “Active and Quasi- Optical Arrays” and “Micro and Nano Manipulations for Biomedical Applications”.

Value Proposition:
- Biocompatible and Flexible
- Embedded in Implantable intra ocular lens
- Simple two-Step fabrication process
- Wireless Communication -Active and Passive

Industrial application:
- Healthcare:
  - Ophthalmic
  - Disease Monitoring

Patent Status:
- US Patent Pending

Current Stage:
- Prototyped

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