

## **CORRECTING VISION PROBLEMS WITH A NOVEL TUNABLE LENS**

Correction of age-related optical changes in the eye, such as presbyopia, has been increasingly important. Researchers at the University of Missouri-St. Louis have conceived of a new and improved adaptive liquid crystal lens employing the hybrid diffractive lens structure. The inventive lens allows large aperture, high light efficiency, fast switching time, low driving voltage, power-failure-safe configuration, and continuous adjustment of the focusing power. The low-cost, electro-optic lenses will be continuously tunable and offer high optical performance for near, intermediate and distance vision. The invention also provides a new fabrication method for the inventive liquid crystal lens.

### **POTENTIAL AREAS OF APPLICATIONS:**

- Adaptive eyeglasses with electro-optic lenses for correction of presbyopia and other vision issues
- Employment of the adaptive lens for rapid, high-resolution 3D biomedical microscopic imaging without mechanic scanning

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**INVENTOR(S):** Guoqiang Li

**CONTACT INFO:** Tamara Wilgers; wilgerst@umsl.edu; 314-516-6884