RECOMMENDATIONS FOR FURTHER RESEARCH

Further research can be carried out by incorporating the following areas into the study:

- Nano-assembled thin films can be used for enhancing biosensor response for construction of optical fiber based biosensors.

- Nanocomposite materials such as metal-oxide sol-gel matrices like sol-gel processed molybdenum trioxide can be employed for immobilization of the enzyme since as orthorhombic molybdenum has been shown to be highly selective ammonia sensing element (Jha et al., 2004).

- The use of quantum dots can be included into fiber-optic biosensor design.

- Fluorescence-based molecularly imprinted polymer (MIP) sensors can be fabricated.

- The sensing element can be integrated with microfluidic chips to reduce sample and reagent volume, to shorten response time and analysis time, as well as to increase further sensitivity say up to femtomolar arginine concentration (or even farther).