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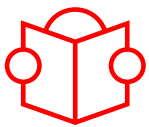


Research field

**Electrochemical Biosensors**

PhD title

**Nano-Biosensors for early-stage  
diagnosis of neurodegenerative  
diseases**



### Summary

Alzheimer's disease is a progressive degenerative brain disorder. An increase in the levels of A $\beta$ -42 and P-tau proteins (biomarkers) has been found in the serum of Alzheimer's disease patients, which has shown promise in detecting the disease. Currently, there is a need for affordable and non-invasive methods to monitor these biomarkers. Therefore, the goal of this research is

to develop a nano-biosensors array to predict and diagnose Alzheimer's at an early stage, potentially improving quality of lives. We then plan to create a specialized sensing platform by using disposable sensor chips that can accurately detect the target biomarkers. Ultimately, we aim to validate and market these sensor chips along with a digital device to enable early diagnosis and screening of Alzheimer's disease.

### Keywords

- Biosensors
- Nanomaterials
- Immunosensors
- Alzheimer's disease



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