

A miniaturized oxidative stress sensor for use with biological and clinical samples

Description

Oxidative and nitrosative stress are directly linked to a wide range of disorders, from Alzheimer's to schizophrenia. A sensor to measure these stressors could find applications from point-of-care diagnostic aids (labs-on-chips) to functioning as a new research tool in miniaturized disease models (organs-on-chips).

The aim of this project is to take a previously-developed optical assay based on a soluble chemical and develop it into a sensor platform. Previous work has established an immobilization method for the chemical and demonstrated the viability of the sensing method. You shall work on further development towards a proper sensor.

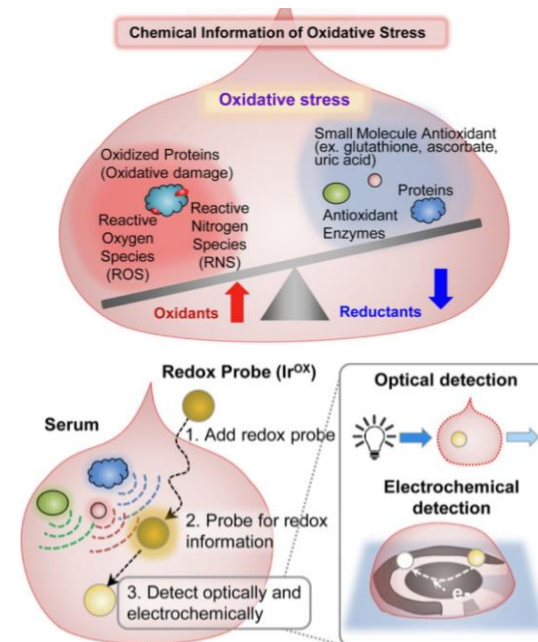
You will:

- Learn about electrochemistry and microengineered sensor integration
- Measure sensor performance using prepared standards and biological samples
- Perform sensor characterization and optimization
- Consider alternative iridium electrode-based sensors

You should:

- Be highly motivated and creative, able to work independently, open to feedback
- Have a relevant educational background (engineering, chemistry, ...)

Start: By arrangement
Contact: Jeroen Bugter MSc. | <https://lab.winkler.site>
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 please apply with CV, transcripts, and letter of motivation



Kim, Winkler, et al. *Analytical Chemistry* 89 (2017), © ACS

