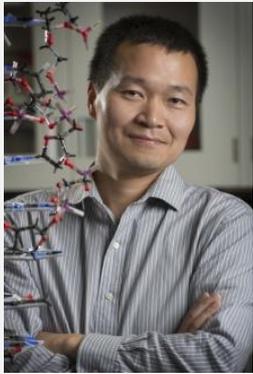




Sensors and Sensing Systems for Water Quality Monitoring

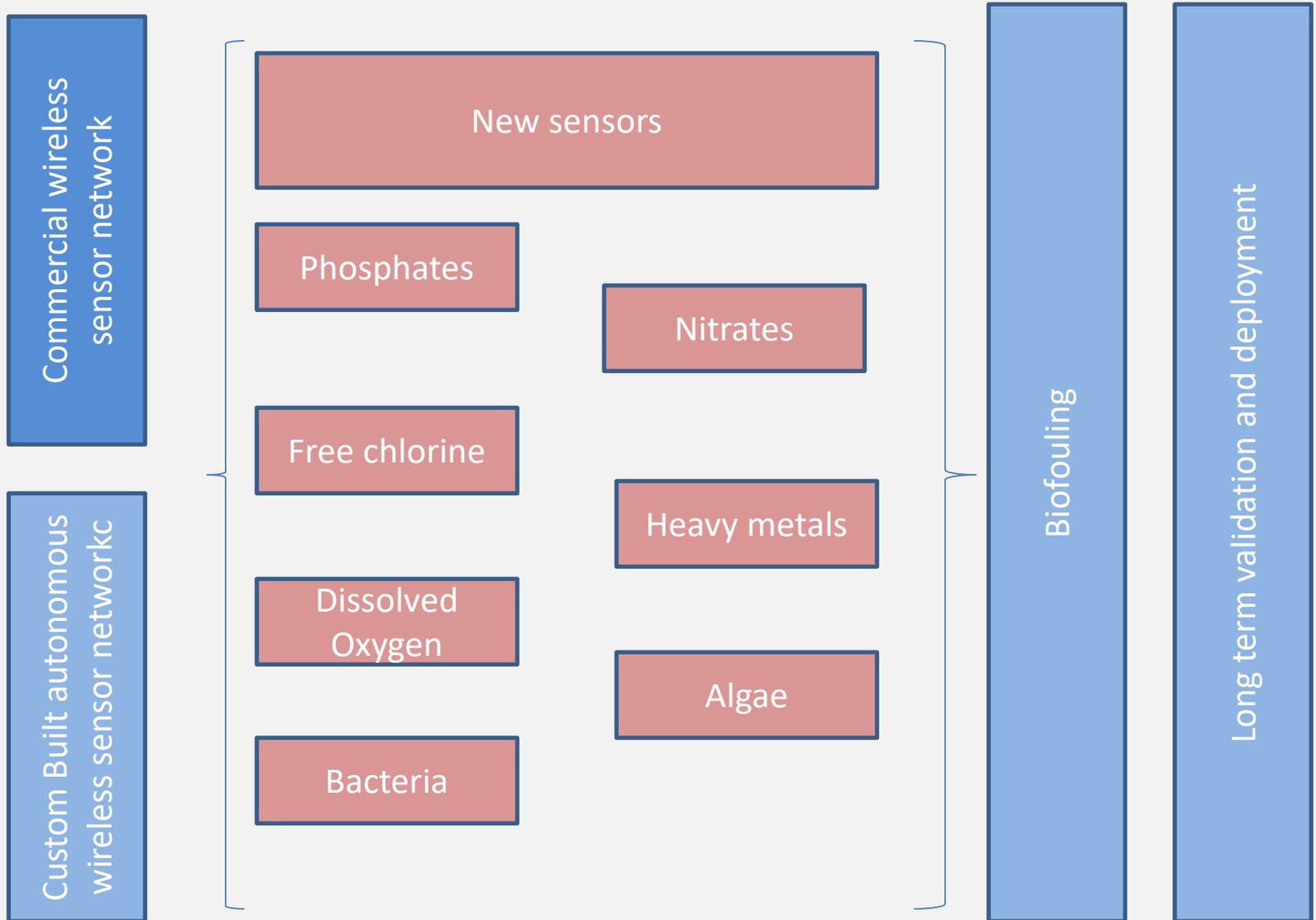




Objectives

- Development of low cost sensing systems and its deployment
- Development of new sensing methods and sensor designs for analytes of interest
- Partnering with GWF partners and other end users in development and validation
(Indigenous water tools; TTSW; Northern water futures; Agri water futures, FORM BLOOM; Lake water futures; Prarie water futures)
- Commercialization of sensors and sensing systems (Areva, CEMI, Hoskin Scientific, ARAD, Forsee)

Overview of Research Plans



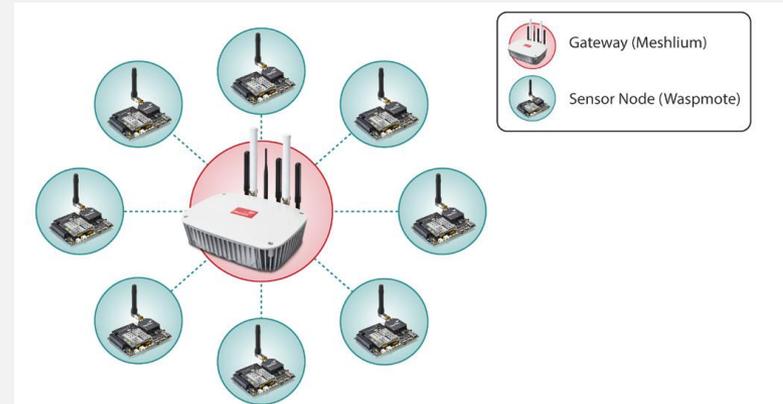
Research Plans

- Development of low cost sensing systems and its deployment

Low cost platforms



Commercial platforms

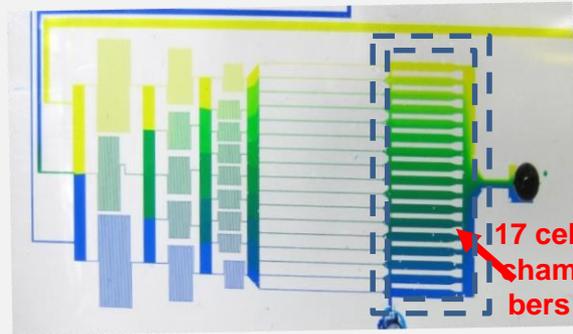


Research Plans

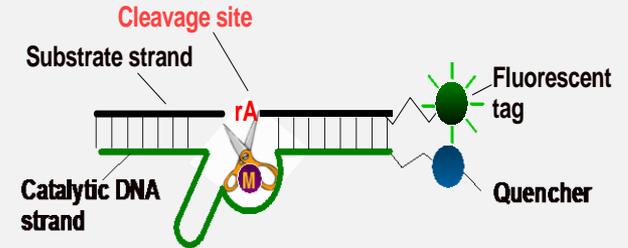
- New sensing methods and sensor designs



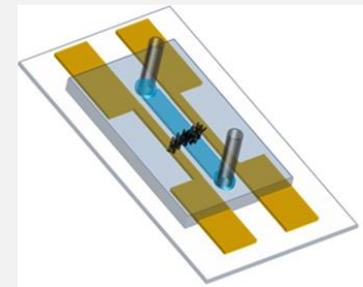
Fluorometer for algae



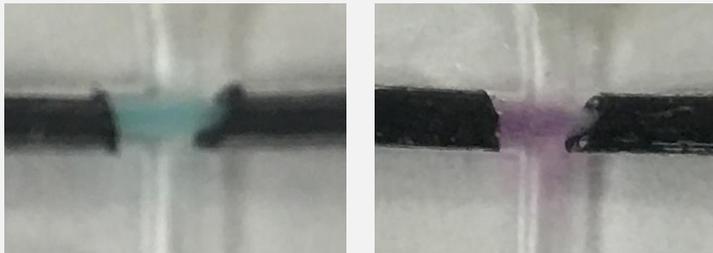
FIA for nutrients



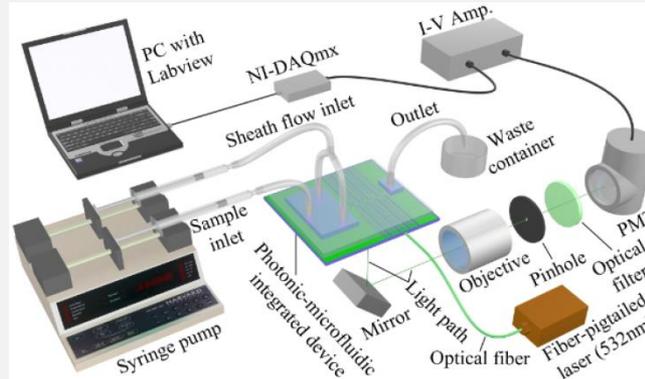
Aptamer for heavy metals



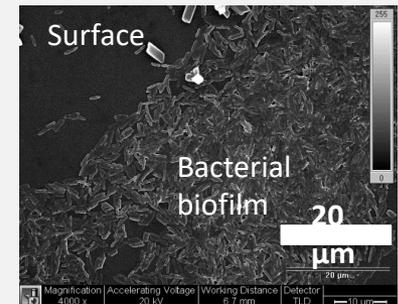
CNT – free chlorine



Thread based sensors



Cytometric bacterial sensor



Active biofouling prevention

Progress and Future Plans

- Funding approved – dec 2017
- Project start – Jan 2018
- Funding to individual co-PIs distributed
- Recruitment of PM (Aditya) – Jan 2018
- Recruitment of Students – Jan –Apr 2018
- First prototypes by end of Year 1
- Proof of concept for new sensors end of Year 2
- Validation and testing of new sensors Year 3