I’m reaching out to invite you to a workshop we’re holding on November 29th as part of an ARC Linkage project I’m involved in. Over the last two years, we have been developing novel statistical methods to improve the reliability of in-situ sensor data, creating new tools to analyse these near-real time datasets, and working on survey designs that provide data-driven guidance about the spatial deployment of in-situ sensor networks. We’re two years into the project and the aim of the workshop will be to highlight the research undertaken to date, but also foster discussion with experts about where to focus our efforts over the remaining 12 months. It would be really valuable to have you involved in these discussions given your expertise and experience and I hope you can make it. I’ve provided a bit more information below about the project, workshop, and our collaborators below, but let me know if you have any questions (please cc [valentina.dimarco@qut.edu.au](mailto:valentina.dimarco@qut.edu.au)).

If you’re able to take part for all or part of the day, please RSVP for the workshop here: <https://arclpworkshop.wixsite.com/website>

You can also find additional information about the draft workshop agenda on the website, which will continue to be updated.

**ARC Linkage Project:** Revolutionising water quality monitoring in the information age

**Project Partners:** Queensland Department of Environment and Science (QLD DES), SEQ Healthy Land and Water, QUT, Monash, RMIT, University of Alaska

**Date:** 29th of November 2021, 10:00 AM AEST (11:00 AM AEDT) to 4.00 PM AEST (5:00 PM AEDT)

**Location:** Virtual (Zoom) and In-Person Options (Brisbane, TBC)

**Project Focus:**

1. Investigate relationships between water-quality parameters collected using in-situ sensor data from different river networks, and use those relationships to distinguish between technical anomalies and real water quality events;
2. Develop new methods for detecting technical anomalies (e.g. miscalibration, biofouling, battery and technical failures) in near real-time in-situ sensor data;
3. Develop space-time models based on in-situ sensor data that can be used to predict at unsampled locations and/or times;
4. Develop adaptive sampling designs for river networks to optimise the deployment of in-situ sensors; and
5. Build skills and capacity.

**Workshop Structure:**

The workshop will be organised into two sessions, with one in the morning and one in the afternoon. It will be held in person for Brisbane participants (location TBC) and on Zoom.

During the day, a variety of speakers from QLD DES, SEQ Healthy Land and Water, and participating universities will describe the

* Real-world motivation for the project and the challenges faced working with in-situ sensor data;
* Progress on novel methods developed to address these challenges to date; and
* Demonstrations of open source software that participants can use to apply these methods to their own data.

There will also be sessions dedicated to discussion and planning, to help focus research over the next 12 months in areas that will provide the greatest benefit to organisations regularly working with near-real time in-situ sensor data.

We hope you can join us!