

March 2018 Progress Report

By

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Outline

- New Title
- Objectives
- Publications
- February Progress
- March Plans

Working Title

Towards Robust Wireless Sensor
Network-based Automatic Weather
Stations

Main Objective

To design mechanisms to improve robustness of Wireless Sensor Network-based Automatic Weather Stations

Specific Objectives

- To investigate status of weather stations in order to establish challenges affecting their operations and identify opportunities for improving the sustainability of Automatic Weather Stations (AWS)
- To propose robust optimization techniques for Wireless Sensor Network(WSN)-based AWSs design to address challenges identified
- To propose Quality of Service assessment techniques for the AWS to assess the robustness and performance of the WSN-based AWS

March Progress

<p>Paper entitled “Condition Monitoring and Reporting Framework for Wireless Sensor Network-based Automatic Weather Stations” accepted by IST-Africa 2018</p>	
<p>Setting up an experiment to benchmark with manual station and testing</p> <ul style="list-style-type: none">Rain gaugeWind sensorsSolar insolationPressure	<p>Set up done but not yet in the garden and not yet put in box</p> <p>Testing pulse driver with anemometer and rain gauge</p> <p>Challenge: May not be able to put wind sensors 10m from ground</p>
<p>Finish Introduction of paper on “Design Robust Optimization for a Wireless Sensor Network-based Automatic Weather Station”</p>	<p>Shared draft copy on 27th March 2018 with advisers</p> <p>Title: A Robust Optimization Design for data collection in Wireless Sensor Networks</p>

April Plans

- Transfer experiment to the Weather Station by 3rd April 2018
- Monitor data collected and compare with proprietary and manual data
- Revise paper as per comments from advisers
- Improve introduction and related work
- Incorporate the following sections
 - Cost assessment of the data collection process
 - An optimal energy-efficient data collection scheme using data coding
 - Robust driver design model

THANK YOU