Faculty of Humanities

2020 Australian Government Research Training Program Scholarships

Strategic Project Profile

PROJECT TITLE: Maximising operational effectiveness in water utilities asset management

FIELD OF RESEARCH CODE: 1202

PROJECT SYNOPSIS: The primary aim of this project is to develop an innovative lifecycle semantic–based decision making approach through asset intelligence so as to maximize the operational effectiveness of maintenance and repair of water utility assets. The research intends to address an important gap by providing logical formalisms and real-time capability to life-cycle asset information through computational intelligence. The expected outcome will be an intelligent asset management platform that provides structured and semantically enriched lifecycle asset information for optimised solutions to help reduce the cost, time and effort in asset information storage and retrieval, and decision-making.

This project contributes to the competitiveness of Australian fundamental and applied research capabilities, especially in digital infrastructure asset management. The impact of the project is the enhancement of infrastructure asset management decision-making with the aid of an intelligent platform which provides logical formalism, semantic features and real-time capability of life-cycle asset information for optimised solutions that can benefit relevant stakeholders for practice penetration.

FEASIBILITY AND RESOURCING – DESCRIPTION OF THE SUPPORT THIS PROJECT WILL RECEIVE:

This project has been supported by Water Corp. Western Australia and Sustainable Built Environment National Research Centre. Water Corp. WA has committed $100,000 for the research team to build up capacity in this research area. Water Corp. WA will also be providing access to unique industry consulting knowledge; data, records and norms from previous projects as well as time of senior executives in providing guidance to the student. SBEnrc provides access to the significance expertise in digital asset management, including continuous industry project activity in this area since 2013.

WHAT MINIMAL ATTRIBUTES AND SKILLS EXPECTED BY THE CANDIDATE BE COMPETITIVE: The preferred skills may include digital engineering, sustainability and data analysis.

THE SIGNIFICANCE OF THE PROJECT/ PROGRAM FOR THE ENROLLING SCHOOL OR INSTITUTION:

This project will strengthen the School and University's leading position in digital asset management and sustainable infrastructure (as a core school research discipline), in addition to the successful secure of ARC Discovery project DP180104026 and ARC Linkage Project LP180100222 in the same research area. In addition, this project will continue to maintain the high quality of the HDR program by forming a supervisory team that is balanced with academic and industry experiences. A/P Peng Wu and Prof. Keith Hampson have been working with Water Corp WA for a year, ensuring the student can access industry expertise for the completion.

Students are advised to contact the Project Lead listed below prior to submission of their scholarship application to discuss their suitability to be involved in this strategic project.

PROJECT LEAD CONTACT

NAME: **Associate Professor Peng Wu, Faculty of Humanities**

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