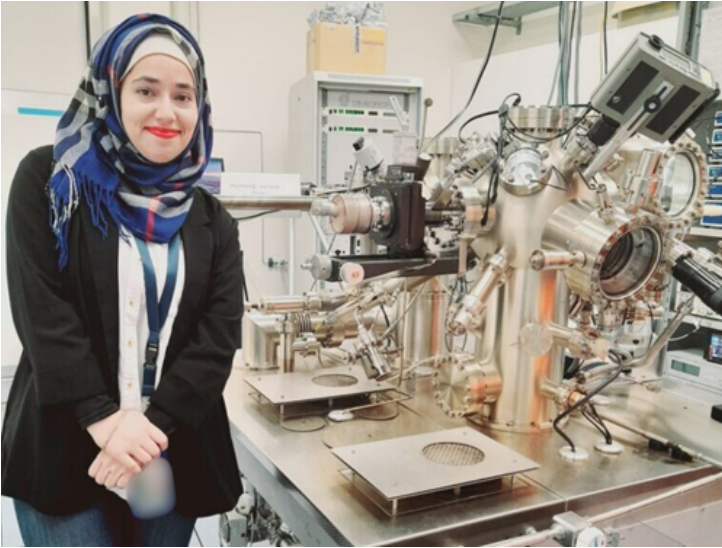


Quantum leap to tackle Australian food security and student wellbeing

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Food Ladder, an Australian not-for-profit combating food insecurity through school-based greenhouse programs, has announced a partnership with CSIRO, Australia's national science agency, and the University of Southern Queensland (UniSQ) to apply quantum artificial intelligence (AI) to improve food security and student wellbeing.

The four-year research project, funded through the CSIRO Industry PhD Program, is one of the first in Australia to utilise quantum machine learning in a non-quantum industry. It will test how quantum AI can solve complex optimisation challenges in education, health and food systems.

Experts from the three organisations will support a PhD student to explore how the technology can help:

Optimise crop growth and food security by using computer modelling to test how greenhouses perform with limited water, energy, and fertiliser to find new ways to maintain sustainable farming in a changing climate.

Support student mental health by measuring the therapeutic benefits of greenhouse interaction through wearable devices that track stress indicators such as heart rate variability, skin conductance, and movement.

Food Ladder CEO and co-founder Kelly McJannett said the partnership highlights the connection between food security and wellbeing.

"This partnership shows how the smartest minds and the most advanced technology can be applied in the service of students and communities. Together with CSIRO and UniSQ, we are pushing the boundaries of what's possible by creating schools that not only feed and educate but also heal and inspire," McJannett said.

The University of Southern Queensland will lead research into the therapeutic benefits of student interaction with plants. Dr Rajib Rana, Professor of Computer Science at the University of Southern Queensland, said the project would measure and optimise the mental health benefits of green spaces.

"By integrating advanced AI technology with real-world data from schools, we can better understand how programs like Food Ladder help nurture calm, focus, and resilience in children facing disadvantage."