# 'The Arabidopsis Ca<sup>2+</sup>/H<sup>+</sup> exchangers, AtCAX1 and AtCAX3, are shown by co-localisation, interaction and complementation to participate in plant Ca<sup>2+</sup> homeostasis.'

by

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A thesis submitted for the partial fulfilment of the requirements of the Masters of Biotechnology (Plant Biotechnology)

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### **DECLARATION**

I declare that this thesis is a record of original work and contains no material which has been accepted for the award of any other degree or diploma in any university. To the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text.

Signature of Student
Student Name
(Date)
Signature of Principal Supervisor
Supervisor Name
(Date)

### **PREFACE**

This research was performed over 10 months as part of a Masters in Biotechnology (Plant Biotechnology). The literature review was previously assessed but has been modified somewhat to address small changes in the research focus of the project. Although the research manuscript contained herein will provide the first draft of a future publication in Plant Cell and Physiology Journal, due to time constraints, additional data relevant to that publication may be collected. Additional data that has been collected which was not conclusive or integral to the focus of the research manuscript is provided within the appendices. The research manuscript details investigations into the interactions of Arabidopsis calcium transporters, while the appendices contain additional information pertaining to protoplast transformations, plasmid construction and plant media recipes.

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