

## DR MICHAEL LUKE WALKER

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Citizenship: Australian

Membership of Professional Association: Australian Institute of Physics.

### KEY STRENGTHS

Strong programming skills, able to learn new programming languages easily. Experience with version control and open source development. Familiar with object oriented programming.

Strongest languages are python, C++ and fortran.

Strong mathematical and analytical skills.

Strong research skills, with publications in international journals.

Competent organisational skills, including familiarity with common office software.

Extensive and varied teaching and tutoring experience, including residential tutoring and international experience.

### EDUCATION

- 1995 – 99      AUSTRALIAN NATIONAL UNIVERSITY (ANU)  
Graduated with Doctor of Philosophy, 20th April 2000 (nominated for university medal).
- 1995 - 96      CAMBRIDGE UNIVERSITY  
Advanced Certificate of Mathematics ( Tripos Part III ) PhD suspended one year for this lecture course of advanced postgraduate mathematics.
- 1991 - 94      MONASH UNIVERSITY  
1991            Bachelor of Science/Engineering.  
1992 - 94      Bachelor of Science (Pure Mathematics Honours).  
Awarded B.Sc.(Hons 1st class) 29th March 1995.

## **SCHOLARSHIPS AND AWARDS**

- 1995 - 99 Recipient of ANU Graduate Student Award.
- 1995 - 96 Cambridge Commonwealth Trust Bursary.
- 1999 Distinction for Director's award for best student research paper accepted by a recognized, refereed journal.
- 1998 - 00 ANU University House Scholarship.
- 1998 Australian Institute of Physics travel grant.
- 1997 Winner of "Director's prize for best presentation of a theoretical topic" in the "John Carver Seminar Competition".

## **RELEVANT EMPLOYMENT**

- 2011 - 12 Expert engineer, Virtual Plants Team on project iSAM.  
Virtual Plants is a research team that develops an open source package for simulating all aspects of plant growth and development. Project iSAM is a collaboration between different experimental and computing groups to understand plant phyllotaxis.
- 2009 - 10 Expert engineer, Virtual Plants Team on project Geneshape.  
Project Geneshape is a collaboration of experimental and computational groups to study biological morphogenesis.
- 03/2008 Computational Biophysics, Research School of Biological Sciences, ANU.  
Worked on a team project to simulate the transport of calcium ions through specialised cell membrane channels. Based on molecular dynamics, C++.
- 02-04/2008 Visitor, Department of Physics, University of New South Wales, Australia.  
Laid groundwork for future physics publications.
- 2007 Departmental Visitor, College of Quantum Science, Nihon University, Japan.  
Completed publication of research performed at previous post.
- 2005-2007 JSPS Postdoctoral fellow, Chiba University, Japan.  
Studied QCD confinement and discovered a novel symmetry breaking mechanism in theoretical particle physics.
- 2003-2005 Full-time lecturer, Department of Physics and Applied Physics,  
Kyung Hee University, South Korea.  
Lectured in English to native Koreans on physics and mathematics at both graduate and undergraduate levels.
- 2001-2002 BK21 Postdoctoral Fellow, School of Physics, Seoul Nat. University, Korea.
- 2000 Postdoctoral Fellow (Part-time) in biophysics, chemistry department, ANU.  
Worked on a team project to simulate the transport of calcium ions through

- specialised cell membrane channels. Based on Brownian dynamics, fortran.  
Tutor in mathematics department, ANU.
- 1999 Lecturer in third year course "Relativistic Quantum Mechanics",  
physics department, science faculty, ANU (Semester two).
- 1998 Tutor and first year lab demonstrator, physics department at ANU.
- 1997 Residential physics and maths tutor at John XXIII College, ANU.

### **OTHER ACTIVITIES**

**VOLUNTEER EXPLAINER.** Questacon, at the (Australian) National Science and Technology Centre, is a science museum where I supervised some of the exhibits and explained them to members of the general public.

**PARTICIPANT IN "ADOPT A PHYSICIST" PROGRAM.** An initiative by the Australian Institute of Physics to encourage secondary students to study physics.

**GRADUATE TEACHING PROGRAM.** A twelve week course of seminars and group discussions on effective teaching.

**VICE-PRESIDENT and PRESIDENT OF MONASH PHYSICS SOCIETY.** I led a committee which organised special lectures, excursions and social functions to promote physics on campus.

**TREASURER OF C.A.D.S. (Campus Amateur Dramatic Society) and F.O.M.E. (Science Fiction and Fantasy Appreciation Society of Monash university)**

Other pursuits included piano (Grade 8), leading a church choir, theatre, judo and taekkyon.

### **REFERENCES**

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