
Curriculum Vitæ

1. NAME Paul Christian ABBOTT

2. QUALIFICATIONS

1987 PhD (Physics), UWA
1981 BSc (Hons), UWA

3. EMPLOYMENT RECORD

2009–2016 Associate Professor (School of Physics, UWA)
2001–2008 Senior Lecturer (School of Physics, UWA)
1992–2001 Lecturer (Department of Physics, UWA)
1991 Manager, Wolfram Research (UK) Ltd, (Oxford, UK)
Jun 1989–1990 Applications Development (Wolfram Research Inc., Champaign, IL, USA)
Jan 1989–Jun 1989 Technical Software Development (QPSX, West Perth, WA)
1988 Senior Tutor (Department of Physics, UWA)
1987 Computer Systems Officer (Department of Physics, UWA)

4. RESEARCH

My general area of research is computational physics. More specifically, I am interested in the application of *Mathematica* to theoretical physics, applied mathematics, and to teaching.

□ *Atomic Physics*

- Analytic expansions of and numerical solutions for few-body atomic and molecular systems leading to accurate wavefunctions
- Algebraic simplification and efficient computation of angular momentum coupling coefficients
- Visualisation of atomic and molecular systems

□ *Wavelets*

- Applications of wavelets
- Algorithms for wavelet transforms

□ *Computer Algebra*

- Network programming
- Linking *Mathematica* to numerical libraries
- Hybrid symbolic-numeric computation
- Applications of *Mathematica* to teaching

□ *Editorial*

- *The Mathematica Journal*
- Referee for international peer-reviewed journals
- Editorial review of book manuscripts
- Program committee for international conferences:

Asian Technology Conference in Mathematics: <http://atcm.mathandtech.org/>

International Mathematica Symposium: <http://InternationalMathematicaSymposium.org>

5. PUBLICATIONS

Full list here: <http://www.researcherid.com/rid/F-7069-2010>

6. GRADUATE RESEARCH SUPERVISION

Recent PhD Completions

- 2014 **Bahaa Raffah**
Quantum Structure and Dynamics of Few Electron Systems
Joint supervision with Jingbo Wang
- 2013 **Matthew Ambrose**
Phase transitions patterned magnetic thin films
Joint supervision with Bob Stamps

7. TEACHING AND LEARNING

■ Recent Awards

- 2015 UWA Award for Excellence in Teaching
- 2014 Faculty of Science Excellence in Coursework Teaching Award
- 2010 Faculty of Life and Physical Sciences Excellence in Teaching Award

■ Teaching Grants

- 2007 Improving Student Learning (ISL) Grant — \$2,830
Andre Luiten, Peter Hammond, Ian McArthur and **Paul Abbott**,
Evaluating Electronic Clickers in Physics Teaching.

8. MEMBERSHIP OF PROFESSIONAL SOCIETIES

Member of the Australian Institute of Physics (MAIP), the Institute of Physics (IoP), and the Australian Mathematical Society (AMS).