

CURRICULUM VITAE

Marni Dee Sheppard

born June 1967
citizenship New Zealand / Australia

Secondary Education

Mackellar Girls' High School, Manly Vale, Australia **1979 – 1984**

- 1 Dux in 1984
- 2 Distinctions in National Mathematics Competitions
- 3 History Debating team, Choir

Tornbjerg Gymnasium, Odense, Denmark (Rotary Exchange) **1985**

Tertiary Education

B.Sc. (Hons) – Theoretical Physics, University of NSW **1986 – 1989**

- Theses in High- T_c Superconductivity and the Hubbard Model
- Research Scholarship, High temperature superconductivity, 1987
- Research Scholarship, CSIRO Radiophysics (Sydney), 1988
- First Year Laboratory Demonstration, 1989
- President of Physics Students' Society, 1988

Postgraduate Study – Theoretical Physics, University of NSW **1993 – 1997**

- Australian National University Summer School (Physics), 1994
- Enrico Fermi Summer School (Quantum Groups in Physics), Italy, 1994
- UNSW Choir (soprano)
- Discontinued (without prejudice) 1997

PhD in Theoretical Physics, University of Canterbury, Christchurch **2002 - 2007**

- Awarded doctoral scholarship, University of Canterbury, 2002 - 2005
- **Thesis Completed:** Dec 2006, **Defence Passed:** June 29, 2007
- Study at Perimeter Institute for Theoretical Physics, Jan-Jun 2003

Employment – Scientific

Physics Tutor	University of Canterbury	2002, 2007
Mathematics Tutor	University of New South Wales	1997
Examination marking	UNSW (casual)	1993 - 1995
Research Assistant	A.R. Technology, Sydney (casual)	1992 - 1995
Research Assistant	Biomedical Engineering, UNSW	1990

PhD Thesis

"Gluon Phenomenology and a Linear Topos"

2007

Publications – Recent

1. Crane L., Sheppeard M.D.

"2-categorical Poincare Representations and State Sum Applications"

e-print Archive: math.QA/0306440

2. Alexander S., Crane L., Sheppeard M.D.

"The geometrization of matter proposal in the Barrett-Crane model and resolution of cosmological problems"

e-print Archive: gr-qc/0306079

Publications – Older

3. Hamer, C.J., Zheng Weihong, Sheppeard, M.D. and Schuette, D.

"Universality for SU(2) Yang-Mills Theory in 2+1 dimensions"

e-print Archive: hep-th/9511179

Phys.Rev.D (1996) **54** 2395–2399

4. Hamer, C.J., Sheppeard, M. and Zheng W.H.

"A Monte Carlo approach for SU(2) Yang-Mills theory in 2+1 dimensions"

J. Phys. **G22** (1996) 1303-1313

5. Bertram, C.D., Sheppeard, M.D. and Jensen O.E.

"Prediction and measurement of the area-distance profile of collapsed tubes during self-excited oscillation"

J. Fluids & Structures **8** (1994) 637-660

6. Bertram, C.D. and Sheppeard, M.D.

"Interactions of pulsatile upstream forcing with flow-induced oscillations of a collapsed tube: mode-locking"

Med. Eng. & Phys. **22** (2000) 29-37

7. Taylor K.N.R., Sheppeard M., Matthews D.N., Russell G.J., Bailey A.D., Seely K.

"High Temperature Superconductors II"

Ext. Abstracts Mater. Res. Soc. Spring Meeting (1988) 247

8. Taylor K.N.R., Matthews D.N., Russell G.J., Sheppeard M., Alvarez G.

"YBa₂Cu₃O_{7-d} superconductor-insulator composites: the percolation limit and device potential"

in Proceedings of the First International Symposium on Superconductivity, Nagoya, Japan 1988 Springer-Verlag (1989) 275-279

Recent Talks include

Operads and Polylogarithms in Physics
Morgan-Phoa Workshop, ANU, Dec 2006

Ribbon Graphs in Particle Physics
Australian Category Seminar, Macquarie University, Aug 2006

From M-theory to tricategories
Gravity Meeting, University of Victoria Wellington, Jan 2005

Twistors and Mass
Categories, Gravity and Logic Workshop, UC, July 2004 (organised by me)

Where do quantum numbers live? Categories and Logic
AMSI Workshop, Gold Coast, Australia, Dec 2004

Guts and Descent: Observational Cosmology and Higher Categories
Australian Category Seminar, Maquarie University, Nov 2004

2-groups in State Sum Models
Mathematical Physics Meeting, University of Tasmania, Nov 2003

And other conferences attended include GRG18 in July 2007, the Kerrfest at UC in 2004, the Streetfest in Sydney in 2005, the following Non-Commutative Geometry School at ANU and the NZMI workshop on three dimensional geometric topology at Taipa in 2006.

Employment in Wanaka, NZ

Restaurants / Lift Ops	Cardrona Alpine Resort, Wanaka	winter 1999
Waitress / Kitchenhand	Amigos Mexican Restaurant	summer 1999
Courtesy Patrol Manager	Cardrona Alpine Resort Ski Patrol	winter 2000
Hut Wardening	Department of Conservation	casual 99-02
Waitress	Kai Whaka Pai Restaurant	winter 2001
Alpine Race Official	NZ Eco-Challenge Adventure Race	oct 2001
Labourer	Rippon Vineyard	nov 2001

Mountain Skills

Expert alpine skier – 30 years international experience
Technical mountaineering, Search and Rescue experience
Ascents include Mts Cook, Aspiring and Douglas
Solo climbs and tramps such as a Mt Haidinger traverse and Fyfe Pass
Have reached an altitude of 6900m (Aconcagua, Argentina)

Miscellaneous

Current employment at Alchemy Café, Christchurch. Other interests include physics blogging (blog **Arcadian Functor**), classical music (particularly opera), literature and crosswords.

Contact Details

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