

## CURRICULUM VITAE

DR DAVID RIDOUT  
OCTOBER 15, 2016

### 1. PERSONAL DETAILS

**Full Name:** David Ridout  
**Date of Birth:** November 10, 1976  
**Home Address:** 63 Vannam Drive, Ashwood VIC 3147  
**email:** [david.ridout@unimelb.edu.au](mailto:david.ridout@unimelb.edu.au)  
**url:** <http://www.ms.unimelb.edu.au/~dridout@unimelb/>  
**Current Position:** Senior Lecturer (continuing).  
**Address:** School of Mathematics and Statistics,  
University of Melbourne,  
Parkville VIC 3010, Australia.  
**Phone:** +61 3 8344 5534  
**Citizenship:** Australian  
**Membership:** Australian Mathematical Society  
Australian and New Zealand Association of Mathematical Physics  
Australian Institute of Physics (Graduate).

### 2. EDUCATION AND EMPLOYMENT

**Mar. 2016–** Mathematics Lecturer (continuing), University of Melbourne.  
**Jan. 2014:** AMSI Lecturer, Australian National University.  
**Jul.–Nov. 2013:** Mathematics Lecturer, Australian National University.  
**Jul.–Nov. 2012:** Mathematics Lecturer, Australian National University.  
**Sep. 2010–Mar. 2016:** Australian Research Fellow, Australian National University.  
**Sep. 2009–Aug. 2010:** CRM Postdoctoral Fellow, Université de Montréal.  
[Group leader: Y Saint-Aubin]  
**Sep. 2009–Apr. 2010:** Mathematics Lecturer, McGill University, Montréal.  
**Oct. 2007–Aug. 2009:** Marie Curie Postdoctoral Fellow, DESY Hamburg.  
[Group leader: J Teschner]  
**Sep. 2005–Sep. 2007:** NSERC Postdoctoral Researcher, Université Laval.  
[Group leader: P Mathieu]  
**Jul.–Aug. 2005:** Visiting Fellow (Physics), Australian National University.  
**Mar.–Jun. 2005:** Tutor (Mathematics), La Trobe University.  
**Mar. 2001–Feb. 2005:** PhD (Physics), University of Adelaide.  
Supervisor: P Bouwknegt; Conferred: Dec. 22, 2005.  
**Mar. 1999–Feb. 2001:** MSc (Mathematics), University of Western Australia.  
Supervisors: K Judd, A Mees and G Froyland;  
Conferred: May 27, 2002.  
**Dec. 1998–Feb. 1999:** Research Associate (Physics), University of Adelaide.  
**Jul.–Nov. 1998:** Research Associate (Mathematics), Murdoch University.  
**Feb. 1994–Jun. 1998:** BSc Hons. (Mathematics/Physics), Murdoch University.  
Supervisors: K Harrison and A Stelbovics;  
Conferred: Sep. 16, 1998.

## 3. SUPERVISION

- PostDoc:** Simon Wood (2014–16) DECRA.
- PhD:** Tianshu Liu (2015–??), UoM.  
 Steve Siu (mid-2014–??), UoM.  
 John Snadden (mid-2014–??), ANU.  
 Michael Canagasabey (mid-2012–2016, submitted) — *Fusion Rules in Logarithmic Superconformal Minimal Models*, ANU.
- MSc:** William Stewart (2016-17), UoM.
- Hons:** Matthew Geleta (2015) — *The Coulomb Gas Formalism in Conformal Field Theory*, ANU.  
 Tianshu Liu (2014) — *The Boson-Fermion Correspondence and its Applications*, ANU.  
 Hiroyuki Nagamine (2012–2013) — *An Introduction to String Theory*, ANU.
- Summer:** Madeleine Johnson (2017) — *Lie Algebras and Weight Modules*, UoM.  
 Lawrence Dam (2014–15) — *String Theory on Compact Lie Groups*, ANU.  
 Thao Le (2014–15) — *Lie Algebras, Lie Groups and Physics*, ANU.  
 Scott Melville (2014–15) — *Conformal Field Theory and the Verlinde Formula*, ANU.  
 Hadleigh Frost (2013–14) — *Lie Algebras and Applications in Physics*, ANU.  
 James Bonafacio (2011–12) — *Modular Invariance in Conformal Field Theory*, ANU.  
 James Fletcher (2011–12) — *Infinite-Dimensional Lie Algebras*, ANU.  
 Elisabeth Kava (2011–12) — *Lie Algebras and the Eightfold Way*, ANU.  
 Steven Sammut (2010–11) — *Introductory String Theory*, ANU.
- Mentored:** Yu Zheng (2014–15), ANU.  
 Daniel Comber-Todd (2011–14), ANU.  
 Hannah Smith (2011–13), ANU.

## 4. TEACHING

- 2016:** MAST20030: Differential Equations (36hrs), UoM.
- 2015:** PHYS4004: Equilibrium Statistical Mechanics (17hrs), ANU.  
 Reading course: Lie Algebras and Representations, Maxim Jeffs, ANU.  
 Reading course: String Theory, Yu Zheng, ANU.
- 2014:** MATH3349: Lie Algebras and their Representations (18hrs), ANU.  
 AMSI Summer School: An Introduction to Conformal Field Theory and String Theory for Mathematicians (14hrs), ANU.  
 Wuhan Lectures: Conformal Field Theory for Beginners (12hrs), Chinese Academy of Sciences.
- 2013:** MATH1113: Mathematical Foundations for Actuarial Studies (29hrs), ANU.  
 MATH3351: Topics in Mathematical Physics — Conformal Field Theory (20hrs), ANU.  
 Reading course: String Theory, Tianshu Liu, ANU.  
 Reading course: Lie Algebras, Clement Schlegel, ANU.
- 2012:** MATH1113: Mathematical Foundations for Statistics — Calculus (26hrs), ANU.  
 Reading course: String Theory, Hao He, ANU.  
 Reading course: Lie algebras, Saptarshi Das - Sebastian Mueller - Alan Yin, ANU.
- 2011:** MATH3351: Topics in Mathematical Physics — Lie Algebras (20hrs), ANU.  
 Reading course: String Theory, Sarama Tonetto, ANU.
- 2010:** MATH270: Applied Linear Algebra (39 hrs), McGill.
- 2009:** MATH262: Intermediate Calculus (39hrs), McGill.

## 5. GRANTS AND AWARDS (SELECTION)

- 2016–18:** ARC Grant DP160101520, *Towards Higher Rank Logarithmic Conformal Field Theories* (\$444000).
- 2010–14:** ARC Grant DP1093910, *Indecomposable Structure in Representation Theory and Logarithmic Conformal Field Theory* (\$631660).
- 2009:** Postdoctoral Fellowship, Centre de Recherches Mathématiques, Canada.
- 2007:** Postdoctoral Fellowship, Pacific Institute for the Mathematical Sciences, Canada (declined).
- 2007:** Marie Curie Postdoctoral Fellowship, DESY Theory Group, Germany.
- 2005:** Postdoctoral Fellowship, Université Laval, Canada.
- 2001:** National Adelaide Research Scholarship and Australian Postgraduate Award, University of Adelaide.
- 1999:** Jean Rogerson Scholarship and University Postgraduate Award, University of Western Australia.
- 1997:** University Medal (1 of 4), Murdoch University.

## 6. PROFESSIONAL ACTIVITIES

- Secretary to the Australian and New Zealand Association of Mathematical Physics, 2016–??.
- Special session organiser (Mathematical Physics) for the 60th AustMS meeting, ANU, 5–8/12/2016.
- Special session organiser (Formal Field and String Theory) for SUSY 2016, UoM, 4–8/7/2016.
- Member of the Programme Committee for the 4th ANZAMP congress, Newcastle, 9–11/12/2015.
- Special session organiser (Mathematical Physics) for the 59th AustMS meeting, Flinders, 28/9–1/10/2015.
- Chair of the organising committee for “*The Mathematics of Conformal Field Theory*”, ANU, 13–17/7/2015.
- Member of the organising committee for the ANU special year “*Geometry and Physics*”, 2015.
- Guest editor for a special issue *Logarithmic Conformal Field Theory* of the Journal of Physics, A46:490301, 2013.
- Co-organiser of the “*2nd Asia-Pacific Summer School in Mathematical Physics*”, ANU, 12–16/12/2011.
- Co-organiser of the international conference “*Applied 2D Sigma Models*”, DESY Hamburg, 10–14/9/2008.
- Member of the Physics Education Committee for curriculum reform, ANU, 2014.
- Member of the committee to decide the Jagadishwar Mahanty PhD Thesis Prize, ANU, 2014.
- Education officer for the Department of Theoretical Physics, ANU, 2014–16.
- Seminar convenor for the Department of Theoretical Physics, ANU, 2013–16.
- Outreach officer for the Department of Theoretical Physics, ANU, 2011–2014.
- Member of the judging committee for the Tony Guttman Prize for best student talk at the 2012, 2013, 2014 and 2015 (chair) ANZAMP congresses.
- Judge for the B H Neumann Prize for best student talk at AustMS in 2013.
- PhD Thesis Examination: Simon Villani (Mathematics, UoM) 2014.
- Honours Thesis Examination: Robert Walker (Theoretical Physics, ANU) 2013, Joshua Chen (Mathematics, ANU) 2014, Gleb Kotousov (Theoretical Physics, ANU) 2014, Jack Muir (Geophysics, ANU) 2014, Ellen McRae (Nuclear Physics, ANU) 2015.
- Reviewer for Nuclear Physics B (valued reviewer awards in 2011, 2012 (twice!), 2013 and 2014), Journal of Physics A, Journal of High Energy Physics, Journal of Mathematical Physics, Canadian Journal of Physics, Systems and Control Letters.

## 7. ACADEMIC REFEREES

- (1) Professor Terry Gannon [tjgannon@ualberta.ca]  
Department of Mathematical Sciences,  
University of Alberta,  
Edmonton, Alberta, T6G 2G1, Canada.  
Ph: +1 (780) 492 3988      Fax: +1 (780) 492 6826
- (2) Professor Hubert Saleur [hubert.saleur@cea.fr]  
Institut de Physique Théorique,  
Commissariat à l'Énergie Atomique,  
Saclay, 91191, Gif sur Yvette, France.  
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- (3) Professor Matthias Gaberdiel [gaberdiel@itp.phys.ethz.ch]  
Institute for Theoretical Physics,  
Eidgenössische Technische Hochschule Zürich,  
Wolfgang-Pauli-Str. 27, 8093 Zürich, Switzerland.  
Ph: +41 44 633 25 82      Fax: +41 44 633 11 15
- (4) Professor Yvan Saint-Aubin [saint@crm.umontreal.ca]  
Département de Mathématiques,  
Université de Montréal,  
Québec, Canada, H3C 3J7.  
Ph: +1 (514) 343 6373      Fax: +1 (514) 343 2254
- (5) Professor Pierre Mathieu [pmathieu@phy.ulaval.ca]  
Département de Physique, de Génie Physique et d'Optique,  
Université Laval,  
Québec, Canada, G1K 7P4.  
Ph: +1 (418) 656 2131 # 3416      Fax: +1 (418) 656 2040

## 8. PUBLICATIONS

## 8.1. Refereed Journal Publications.

- (1) O Blondeau-Fournier, P Mathieu, D Ridout and S Wood,  
*The Super-Virasoro Singular Vectors and Jack Superpolynomials Relationship Revisited*,  
Nuclear Physics B (to appear), 2016, arXiv:1605.08621 [math-ph].
- (2) M Canagasabey and D Ridout,  
*Fusion Rules for the  $N = 1$  Superconformal Logarithmic Minimal Models II: Including the Ramond Sector*,  
Nuclear Physics, B905:132-187, 2016, arXiv:1512.05837 [hep-th].
- (3) M Canagasabey, J Rasmussen and D Ridout,  
*Fusion Rules for the  $N = 1$  Superconformal Logarithmic Minimal Models I: the Neveu-Schwarz Sector*,  
Journal of Physics, A48:415402, 2015, arXiv:1504.03155 [hep-th].
- (4) A Morin-Duchesne, J Rasmussen and D Ridout,  
*Boundary Algebras and Kac Modules for Logarithmic Minimal Models*,  
Nuclear Physics, B899:677-769, 2015, arXiv:1503.07584 [hep-th].
- (5) D Ridout and S Wood,  
*Relaxed Singular Vectors, Jack Symmetric Functions and Fractional Level  $\widehat{\mathfrak{sl}}(2)$  Models*,  
Nuclear Physics, B894:621-664, 2015, arXiv:1501.07318 [hep-th].
- (6) D Ridout and S Wood,  
*From Jack Polynomials to Minimal Model Spectra*,  
Journal of Physics, A48:045201, 2015, arXiv:1409.4847 [hep-th].
- (7) D Ridout and S Wood,  
*The Verlinde Formula in Logarithmic CFT*,  
Journal of Physics: Conference Series, 597:012065, arXiv:1409.0670 [hep-th].
- (8) D Ridout and S Wood,  
*Bosonic Ghosts at  $c = 2$  as a Logarithmic CFT*,  
Letters in Mathematical Physics 105:279–307, 2015, arXiv:1408.4185 [hep-th].
- (9) D Ridout and S Wood,  
*Modular Transformations and Verlinde Formulae for Logarithmic  $(p_+, p_-)$ -Models*,  
Nuclear Physics, B880:175–202, 2014, arXiv:1310.6479 [hep-th].
- (10) T Creutzig and D Ridout,  
*Modular Data and Verlinde Formulae for Fractional Level WZW Models II*,  
Nuclear Physics, B875:423–458, 2013, arXiv:1306.4388 [hep-th].
- (11) T Creutzig, D Ridout and S Wood,  
*Coset Constructions of Logarithmic  $(l, p)$ -Models*,  
Letters in Mathematical Physics 104:553-583, 2014, arXiv:1305.2665 [math.QA].
- (12) T Creutzig and D Ridout,  
*Logarithmic Conformal Field Theory: Beyond an Introduction*,  
Journal of Physics, A46:494006, 2013, arXiv:1303.0847 [hep-th].
- (13) A Babichenko and D Ridout,  
*Takiff Superalgebras and Conformal Field Theory*,  
Journal of Physics, A46:125204, 2013, arXiv:1210.7094 [hep-th].

- (14) T Creutzig and D Ridout,  
*Modular Data and Verlinde Formulae for Fractional Level WZW Models I*,  
Nuclear Physics, B865:83–114, 2012, arXiv:1205.6513 [hep-th].
- (15) D Ridout and Y Saint-Aubin,  
*Standard Modules, Induction and the Temperley-Lieb Algebra*,  
Advances in Theoretical and Mathematical Physics, 18:957-1041, 2014, arXiv:1204.4505 [math-ph].
- (16) D Ridout,  
*Non-Chiral Logarithmic Couplings for the Virasoro Algebra*,  
Journal of Physics, A45:255203, 2012, arXiv:1203.3247 [hep-th].
- (17) T Creutzig and D Ridout,  
*W-Algebras Extending  $\mathfrak{gl}(1|1)$* ,  
Springer Proceedings in Mathematics and Statistics, 36:349–368, 2013, arXiv:1111.5049 [hep-th].
- (18) T Creutzig and D Ridout,  
*Relating the Archetypes of Logarithmic Conformal Field Theory*,  
Nuclear Physics, B872:348–391, 2013, arXiv:1107.2135 [hep-th].
- (19) D Ridout and J Teschner,  
*Integrability of a Family of Quantum Field Theories Related to Sigma Models*,  
Nuclear Physics, B853:327-378, 2011, arXiv:1102.5716 [hep-th].
- (20) D Ridout,  
*Fusion in Fractional Level  $\widehat{\mathfrak{sl}}(2)$ -Theories with  $k = -\frac{1}{2}$* ,  
Nuclear Physics, B848:216-250, 2011, arXiv:1012.2905 [hep-th].
- (21) D Ridout,  
 *$\widehat{\mathfrak{sl}}(2)_{-1/2}$  and the Triplet Model*,  
Nuclear Physics, B835:314-342, 2010, arXiv:1001.3960 [hep-th].
- (22) K Kytölä and D Ridout,  
*On Staggered Indecomposable Virasoro Modules*,  
Journal of Mathematical Physics, 50:123503, 2009, arXiv:0905.0108 [math-ph].
- (23) D Ridout,  
 *$\widehat{\mathfrak{sl}}(2)_{-1/2}$ : A Case Study*,  
Nuclear Physics, B814:485-521, 2009, arXiv:0810.3532 [hep-th].
- (24) D Ridout,  
*On the Percolation BCFT and the Crossing Probability of Watts*,  
Nuclear Physics, B810:503-526, 2009, arXiv:0808.3530 [hep-th].
- (25) P Mathieu and D Ridout,  
*Logarithmic  $M(2, p)$  Minimal Models, their Logarithmic Couplings, and Duality*,  
Nuclear Physics, B801:268-295, 2008, arXiv:0711.3541 [hep-th].
- (26) P Mathieu and D Ridout,  
*From Percolation to Logarithmic Conformal Field Theory*,  
Physics Letters, B657:120-129, 2007, arXiv:0708.0802 [hep-th].
- (27) P Mathieu and D Ridout,  
*The Extended Algebra of the Minimal Models*,  
Nuclear Physics, B776:365-404, 2007, arXiv:hep-th/0701250.

- (28) P Mathieu and D Ridout,  
*The Extended Algebra of the  $SU(2)$  Wess-Zumino-Witten Models*,  
Nuclear Physics, B765:201–239, 2007, arXiv:hep-th/0609226.
- (29) P Bouwknegt and D Ridout,  
*Presentations of Wess-Zumino-Witten Fusion Rings*,  
Reviews in Mathematical Physics, 18:201–232, 2006, arXiv:hep-th/0602057.
- (30) P Bouwknegt and D Ridout,  
*A Note on the Equality of Algebraic and Geometric D-Brane Charges in WZW Models*,  
Journal of High Energy Physics, 05(2004)029, arXiv:hep-th/0312259.
- (31) P Bouwknegt, P Dawson, and D Ridout,  
*D-Branes on Group Manifolds and Fusion Rings*,  
Journal of High Energy Physics, 12(2002)065, arXiv:hep-th/0210302.
- (32) D Ridout and K Judd,  
*Convergence Properties of Gradient Descent Noise Reduction*,  
Physica D, 165:26–47, 2002.
- (33) P Bouwknegt, L Chim, and D Ridout,  
*Exclusion Statistics in Conformal Field Theory and the UCPF for WZW models*,  
Nuclear Physics B, 572:547–573, 2000, arXiv:hep-th/9903176.

## 8.2. Preprints.

- (34) J Belletête, D Ridout and Y Saint-Aubin,  
*Restriction and Induction of Indecomposable Modules over the Temperley-Lieb Algebras*,  
Submitted to l’Enseignement Mathématique, arXiv:1605.05159 [math-ph].
- (35) O Blondeau-Fournier, P Mathieu, D Ridout and S Wood,  
*Superconformal Minimal Models and Admissible Jack Polynomials*,  
Submitted to Advances in Mathematics, arXiv:1606.04187 [hep-th].

## 8.3. In Preparation.

- J Auger, T Creutzig and D Ridout,  
*Logarithmic Parafermions*.
- T Creutzig, S Kanade, A Linshaw and D Ridout,  
*Schur-Weyl Duality for Heisenberg Cosets*.
- S Melville and D Ridout,  
*A Logarithmic Verlinde Formula for the Triplet Models*.
- D Ridout,  
*Projective Modules for Fractional Level WZW Models*.
- D Ridout, J Snadden and S Wood,  
 $\widehat{\mathfrak{osp}}(1|2)$ : A Case Study.

## 8.4. Other.

- A Gainutdinov, D Ridout and I Runkel (Eds),  
*Logarithmic Conformal Field Theory*,  
a special issue of the Journal of Physics, A46:490301–490315, 2013.