CURRICULUM VITAE Robert de Mello Koch

PERSONAL DETAILS
Birth: 24th August 1969
Citizenship: Ireland, South Africa
Current Position: South African Research Chair in Fundamental Physics and String Theory in the School of Physics, University of the Witwatersrand.
Current NRF Rating: B2 (Internationally acclaimed researcher)

ACADEMIC QUALIFICATIONS

BSc Electrical Engineering, University of the Witwatersrand, 1991.
BSc (Hons) Exp. & Theor. Physics, University of the Witwatersrand, 1992.
MSc Theoretical Physics, University of the Witwatersrand, 1993.
PhD Theoretical Physics, University of the Witwatersrand, 1997.
Thesis Advisor: Prof. Joao P. Rodrigues; Specialization: High Energy Theory; Thesis Title: Large N Limit of Fermionic Systems.

Honours

Certificate of merit for Electronics, University of the Witwatersrand, 1989.

De Beers Gold Medal for outstanding performance in the BSc-Honors year, University of the Witwatersrand, 1992.

Hewlett Packard best student paper award, COMSIG '92, University of Cape Town, 1992.

Awarded a prestigious FRD Postdoctoral Fellowship, 1998.

Successful renewal of FRD Postdoctoral Fellowship for a second year, 1999.

Received the University of the Witwatersrand Friedel Sellschop Award, 1999, awarded to young researchers who show exceptional talent.

Received a National Research Foundation's President's Award, 2001, awarded to young researchers who show exceptional talent.

Received the South African Institute of Physics Silver Jubilee Medal awarded at the 2001 SAIP conference held in Durban.

Received the Convocation Distinguished Teacher's Award, Faculty of Science 2001.

Invited plenary speaker at the 47^{th} Annual SAIP conference held at Potchefstroom University. A total of five plenary speakers were invited. The other four plenary speakers were from abroad, one of them (Prof C. Cohen-Tannoudji) is a Nobel laureate.

Invited plenary speaker at the International Physics Education Conference 2004, entitled "What Physics Should we Teach?" held at University of Kwazulu Natal, Durban. Other plenary speakers included Prof. George Ellis and Prof. Laurence Viennot who received the ICPE medal.

Mutliple awards from the Royal Society (UK) to establish research links between South Africa and the United Kingdom.

Invited plenary lecturer at the COPROMAPH workshop on superstrings, held at Cotonou Benin, November 2005. The other invited plenary lecturer was Prof. Jim Gates, a prominent Afro-American Theoretical Physicist and Director of the Center for String and Particle Theory at the University of Maryland.

Awarded a Tier 1 Research Chair under the NRF: South African Research Chairs Initiative (SARChI), July 2007. The name of the chair is "Chair in Fundamental Physics and String Theory." According to the NRF definition of types of chairs, "Tier 1 Chairs are tenable for 5 years and renewable twice. These awards are given to outstanding researchers acknowledged by their peers as world leaders in their fields." Successfully renewed in 2012 and 2017.

Fellow of the Stellenbosch Institute for Advanced Studies (since 2003).

Invited in September 2009 to become a member of the Associate Faculty of the African Institute of Mathematical Sciences AIMS). The Associate Faculty of AIMS was instituted by the AIMS Council to recognize lecturers who have made significant contributions at AIMS, not only through lecturing a course more than once, but also through additional engagement in AIMS' activities. Membership is for four years and the names of Associate Faculty members appear on the AIMS website. AIMS Faculty members are invited to become further involved in relevant academic matters, for example, suggestions on courses and research themes, and canvassing applications from students, tutors and lecturers. AIMS may also invite Associate Faculty members to participate in specific activities and functions.

Invited in May 2011 to take up a Fellowship at Durham's Institute for Advanced studies for a period of up to three months between October 2012 and March 2013. The Fellowship was taken up from 6 Jan - 30 March, 2013. The Institute's theme from 2012/13 is "Time". I was invited to become a Fellow "because of your world reputation in and around this field and because there are many colleagues at Durham who are very keen to engage with you and your work."

Invited speaker at STRINGS 2015, Bengaluru, the largest annual international string theory conference.

Inducted into the South African Academy of Science, October 2016.

Invited speaker at STRINGS 2016, Beijing, the largest annual international string theory conference.

WORK EXPERIENCE

(Jan 1996 - Dec 1997) Consultant to Grinaker System Technologies for the development of signal processing techniques that are applicable to spread spectrum (more specifically DSSS) signal detection and analysis.

(October 2000 - January 2003) Consultant to the Anglo American, Anglo Gold, De Beers consortium on the development of a gravity gradiometer sensitive enough for use in prospecting. My role in this project was to develop the software and algorithms that will support the gravity gradiometer instrument. This includes the development of algorithms which determine the optimal survey design (aircraft flight path, flying heights, draped versus barometric surveys, etc.), to correct for noise due to errors in the digital terrain model, to correct for known effects (field due to earth's curvature, tidal effects, etc) and to correct for noise due to aircraft movement. In addition, I was involved in developing methods to be used to test the quality of the final instrument to be delivered by CSIRO, Australia.

Service to the Community

Reviewer for Phys. Rev. D, Phys. Rev. Lett., JHEP, Class and Quantum Gravity, Phys. Lett. B, Nucl. Phys. B, Journal Phys. A (Math and General) and Comm. Math. Phys.

External reviewer for the Department of Physics, University of Cape Town (2006), for the Institute for Theoretical and Astroparticle Physics, University of Cape Town (2004) and for the Institute for Theoretical Physics, University of Stellenbosch (2002).

External assessor in hiring for faculty in the field of theoretical physics for University of Pretoria (2015) and University of Johannesburg (2017).

External for advanced courses at University of Swaziland, University of Kwazulu Natal, University of Cape Town, University of Stellenbosch and University of Johannesburg.

Prepared the expert evaluation report on the scientific activities of the Spanish Severo Ochoa Center of Excellence in Astrophysics for the period (2006-2010). Prepared the expert evaluation report on the scientific activities of the Spanish Severo Ochoa Center of Excellence in Particle Physics for the period (2006-2010).

Reviewer for NRF ratings panel, for the South African Research Chairs Initiative and for the Competitive Grants program.

Served on the working group that established the National Institute for Thereotical Physics (NITheP) in South Africa, 2006 - 2010.

Reviewer for post doctoral fellow applications to the Claude Leon Foundation.

Visiting lecturer Brown University: Quantum Field Theory (spring 2006), Group Theory (spring 2014), Group Theory (spring 2015).

Video lectiures on group theory (delivered at the African Summer Theory Institute) and electromagnetism (delivered at the African Institute of Mathematical Sciences) on You Tube have gathered well over 100 000 hits. The group theory lectures have formed recommended material for courses taught in India and the USA.

TANGIBLE RESEARCH OUTPUTS

For the majority of my articles (all physics articles) the order of authors is alphabetic. In all these cases I believe that my collaborators will agree that my contribution was essential to the successful completion of the project. The order of authors on articles published in electrical engineering journals accurately reflects my role in these projects.

Publications (peer reviewed journals)

1. A.J. Willis, R. de Mello Koch, and J. Nicolson, "Minimum Norm Target Estimation Algorithm for Phased Array Radar", Elect. Lett. **28** (1992) 358.

2. R. de Mello Koch and J.P. Rodrigues, "The Collective Field Theory of a Singular Supersymmetric Matrix Model," Phys. Rev. **D51** (1995) 5847.

3. A.J. Willis and R. de Mello Koch, "Linear Reconstructive Approach to Super resolution Array Processing," J. Amer. Accous. Soc. **97** (1995) 3002.

4. R. de Mello Koch and J.P. Rodrigues, "Systematic 1/N Corrections for Bosonic and Fermionic Vector Models without Auxiliary Fields, Phys. Rev. **D54** (1996) 7794.

5. R. de Mello Koch and J.P. Rodrigues, "Classical Integrability of Chiral QCD in two dimensions and Classical Curves, Mod. Phys. Lett. **A12** (1997) 2445.

6. R. de Mello Koch and J.P. Rodrigues, "Duality and Symmetries of the Equations of Motion," Phys. Lett. **B432** (1998) 83.

 A.J. Willis, M. Jager, J. Eggers and R. de Mello Koch, "Localized Prior Knowledge and Optimal Interpolation in High Resolution Tomography, IEEE Trans. Biomed. Eng. 45 (1998) 538.

8. A.J. Willis, R. de Mello Koch, B. Spear and A.Klopper, "A Maximum A-Posteriori Algorithm for Reconstruction of Signals in Incompletely Defined Correlated Noise," IEEE Trans. Sig. Proc. **46** (1998) 1439.

 J. Maltz, R. de Mello Koch and A.J. Willis, "Reproducing Kernel Hilbert Space Method for Optimal Interpolation of Potential Field Data," IEEE Trans. Sig. Proc. 7 (1998) 1725.
 R. de Mello Koch, A. Jevicki, M. Mihailescu and J.P. Nunes, "Evaluation of Glueball Masses from Supergravity," Phys. Rev. D58 (1998) 105009.

11. R. de Mello Koch, K. Oh and R. Tatar, "Moduli Space for Conifolds as Intersection of Orthogonal D6 Branes," Nucl. Phys. **B555** (1999) 457.

12. R. de Mello Koch and J.P. Rodrigues, "Solving Four Dimensional Field Theories with the D5 Brane," Phys. Rev. **D60** (1999) 027901.

13. R. de Mello Koch and R. Tatar, "Higher Derivative Terms from Threebranes in F Theory," Phys. Lett. **B450** (1999) 99.

14. R. de Mello Koch, A. Paulin-Campbell and J.P. Rodrigues, "Nonholomorphic Corrections from Threebranes in F Theory," Phys. Rev. **D60** (1999) 106008.

15. R. de Mello Koch, A. Paulin-Campbell and J.P. Rodrigues, "Monopole Dynamics in N=2 Super Yang-Mills Theory from a Threebrane Probe," Nucl. Phys. B559 (1999) 143.
16. R. de Mello Koch, A. Jevicki, M. Mihailescu and R. Tatar, "Lumps and P-branes in Open String Field Theory," Phys. Lett. B482 (2000) 249.

17. R. de Mello Koch and J.P. Rodrigues, "Lumps in level truncated Open String Field Theory," Phys. Lett. **B495** (2000) 237.

18. R. de Mello Koch, A. Jevicki and J.P. Rodrigues, "Collective String Field Theory of Matrix Models in the BMN Limit," Int. J. Mod. Phys. A19 1747-1770, 2004.

19. R. de Mello Koch, A. Donos, A. Jevicki and J.P. Rodrigues, "Derivation of String Field Theory from the Large N BMN Limit," Phys. Rev. **D68** 065012, 2003.

20. Paul Cook, Robert de Mello Koch, Jeff Murugan, "Nonabelian Bionic Brane Intersections," Phys. Rev. **D68** 126007, 2003. 21. Robert de Mello Koch, Rhiannon Gwyn, "Giant Graviton Correlators from dual SU(N) super Yang-Mills Theory," JHEP **0411** 081, 2004.

22. Robert de Mello Koch, Antal Jevicki, Joao P. Rodrigues, "Instantons in C=0 CSFT," JHEP **0504** 011, 2005.

Robert de Mello Koch, Antal Jevicki, Sanjaye Ramgoolam, "On Exponential Corrections to the 1/N Expansion in two-dimensional Yang Mills Theory," JHEP 0508 077, 2005.

24. Robert de Mello Koch, Jeff Murugan, Jelena Smolic, Milena Smolic, "Deformed PP-Waves from the Lunin-Maldacena Background," JHEP **0508** 072, 2005.

25. Rajsekhar Bhattacharyya, Robert de Mello Koch, "Fluctuating Fuzzy Funnels," JHEP **0510** 036, 2005.

26. Robert de Mello Koch, Norman Ives, Jelena Smolic, Milena Smolic, "Unstable Giants," Phys. Rev. **D73**:064007, 2006.

27. T. Brown, R. de Mello Koch, S. Ramgoolam and N. Toumbas, "Correlators, Probabilities and Topologies in N=4 SYM," JHEP **0703** 072, 2007.

28. Robert de Mello Koch, Jelena Smolic and Milena Smolic, "Giant Gravitons - with Strings Attached (I)," JHEP **0706** 074, 2007.

29. Robert de Mello Koch, Jelena Smolic and Milena Smolic, "Giant Gravitons - with Strings Attached (II)," JHEP **0709** 049, 2007.

30. David Bekker, Robert de Mello Koch and Michael Stephanou, "Giant Gravitons - with Strings Attached. (III)," JHEP **0802** 029, 2008.

31. Sera Cremonini, Robert de Mello Koch and Antal Jevicki, "Matrix Model Maps and Reconstruction of AdS SUGRA Interactions," Phys. Rev. **D77** 105005, 2008.

32. Rajsekhar Bhattacharyya, Storm Collins and Robert de Mello Koch, "Exact Multi-Matrix Correlators," JHEP **0803** 044, 2008.

33. Rajsekhar Bhattacharyya, Robert de Mello Koch and Michael Stephanou, "Exact Multi-Restricted Schur Polynomial Correlators," JHEP **0806** 101, 2008.

34. Robert de Mello Koch, "Geometries from Young Diagrams," JHEP 0811, 061 (2008).

35. R. de Mello Koch, N. Ives and M. Stephanou, "Correlators in Nontrivial Backgrounds," Phys. Rev. D **79**, 026004 (2009).

36. R. de Mello Koch, T.K. Dey, N. Ives and M. Stephanou, "Correlators of Operators with a Large R Charge," JHEP **0908** 083, (2009).

37. R. de Mello Koch, T.K. Dey, N. Ives and M. Stephanou, "Hints of Integrability Beyond the Planar Limit," JHEP **1001**, 014 (2010).

 R. de Mello Koch, G. Mashile and N. Park, "Emergent Threebrane Lattices," Phys. Rev. D81, 106009 (2010).

39. V. De Commarmond, R. de Mello Koch and K. Jefferies, "Suprisingly Simple Spectra," JHEP **1102** 006, (2011).

40. R. de Mello Koch, A. Jevicki, K. Jin and J.P. Rodrigues, " AdS_4/CFT_3 Construction from Collective Fields," Phys. Rev. **D83** 025006, (2011).

41. W. Carlson, R. de Mello Koch and H. Lin, "Nonplanar Integrability," JHEP **1103** (2011) 105.

42. R. de Mello Koch and S. Ramgoolam, "From Matrix Models and Quantum Fields to Hurwitz Space and the absolute Galois group," arXiv:1002.1634.

43. R. de Mello Koch, B. Mohammed and S. Smith, "Nonplanar Integrability: Beyond the SU(2) Sector," Int. J. Mod. Phys. A **26** (2011) 4553.

44. R. de Mello Koch, M. Dessein, D. Giataganas and C. Mathwin, "Giant Graviton Oscillators," JHEP **1110** (2011) 009 [arXiv:1108.2761 [hep-th]].

45. R. de Mello Koch, P. Diaz and H. Soltanpanahi, "Non-planar Anomalous Dimensions in the sl(2) Sector," Phys. Lett. B **713** (2012) 509 [arXiv:1111.6385 [hep-th]].

46. R. de Mello Koch, G. Kemp and S. Smith, "From Large N Nonplanar Anomalous Dimensions to Open Spring Theory," Phys. Lett. B **711** (2012) 398 [arXiv:1111.1058 [hep-th]].

47. R. de Mello Koch and S. Ramgoolam, "Strings from Feynman Graph counting : without large N," Phys. Rev. D 85 (2012) 026007 [arXiv:1110.4858 [hep-th]].

48. R. de Mello Koch, N. Ives and M. Stephanou, "On subgroup adapted bases for representations of the symmetric group," J. Phys. A 45 (2012) 135204 [arXiv:1112.4316 [math-ph]].
49. R. de Mello Koch, B. A. E. Mohammed, J. Murugan and A. Prinsloo, "Beyond the Planar Limit in ABJM," JHEP 1205 (2012) 037 [arXiv:1202.4925 [hep-th]].

50. R. de Mello Koch and S. Ramgoolam, "A double coset ansatz for integrability in AdS/CFT," JHEP **1206** (2012) 083 [arXiv:1204.2153 [hep-th]].

51. P. Caputa, R. de Mello Koch and K. Zoubos, "Extremal versus Non-Extremal Correlators with Giant Gravitons," JHEP **1208** (2012) 143 [arXiv:1204.4172 [hep-th]].

52. R. de Mello Koch, A. Jevicki, K. Jin, J. P. Rodrigues and Q. Ye, "S=1 in O(N)/HS duality," Class. Quant. Grav. **30** (2013) 104005 [arXiv:1205.4117 [hep-th]].

53. R. de Mello Koch, G. Kemp, B. A. E. Mohammed and S. Smith, "Nonplanar integrability at two loops," JHEP **1210** (2012) 144 [arXiv:1206.0813 [hep-th]].

54. R. de Mello Koch, S. Ramgoolam and C. Wen, "On the refined counting of graphs on surfaces," Nucl. Phys. B 870 (2013) 530 [arXiv:1209.0334 [hep-th]].

55. R. de Mello Koch, P. Diaz and N. Nokwara, "Restricted Schur Polynomials for Fermions and integrability in the su(2—3) sector," JHEP **1303** (2013) 173 [arXiv:1212.5935 [hep-th]].

56. R. de Mello Koch, J. Murugan and N. Nokwara, "Large N anomalous dimensions for large operators in Leigh-Strassler deformed SYM," Phys. Lett. B **721** (2013) 164 [arXiv:1212.6624 [hep-th]].

57. P. Caputa, R. de Mello Koch and P. Diaz, "A basis for large operators in N=4 SYM with orthogonal gauge group," JHEP **1303** (2013) 041 [arXiv:1301.1560 [hep-th]].

58. P. Caputa, R. d. M. Koch and P. Diaz, "Operators, Correlators and Free Fermions for SO(N) and Sp(N)," JHEP **1306** (2013) 018 [arXiv:1303.7252 [hep-th]].

59. R. de Mello Koch, S. Graham and I. Messamah, "Higher Loop Nonplanar Anomalous Dimensions from Symmetry," JHEP **1402**, 125 (2014) [arXiv:1312.6227 [hep-th]].

60. R.de Mello Koch, S. Graham and W. Mabanga, "Subleading corrections to the Double Coset Ansatz preserve integrability," JHEP **1402**, 079 (2014) [arXiv:1312.6230 [hep-th], arXiv:1312.6230].

61. R.de Mello Koch and S. Ramgoolam, "CFT4 as SO(4,2)-invariant TFT2," Nucl. Phys. B 890, 302 (2015) [arXiv:1403.6646 [hep-th]].

62. R. de Mello Koch, R. Kreyfelt and N. Nokwara, "Finite N Quiver Gauge Theory," Phys. Rev. D 89, 126004 (2014) [arXiv:1403.7592 [hep-th]].

63. R. de Mello Koch, A. Jevicki, J. P. Rodrigues and J. Yoon, "Holography as a Gauge Phenomenon in Higher Spin Duality," JHEP 1501, 055 (2015) [arXiv:1408.1255 [hep-th]].
64. R. de Mello Koch, A. Jevicki, J. P. Rodrigues and J. Yoon, "Canonical Formulation of O(N) Vector/Higher Spin Correspondence," J. Phys. A 48, no. 10, 105403 (2015) doi:10.1088/1751-8113/48/10/105403 [arXiv:1408.4800 [hep-th]].

65. R. de Mello Koch, R. Kreyfelt and S. Smith, "Heavy Operators in Superconformal Chern-Simons Theory," Phys. Rev. D 90, no. 12, 126009 (2014) [arXiv:1410.0874 [hep-th]].
66. R. de Mello Koch and L. Nkumane, "Topological String Correlators from Matrix Models," JHEP 1503, 004 (2015) [arXiv:1411.5226 [hep-th]].

67. R. de Mello Koch, N. H. Tahiridimbisoa and C. Mathwin, "Anomalous Dimensions of Heavy Operators from Magnon Energies," JHEP **1603**, 156 (2016)

68. R. de Mello Koch and S. Ramgoolam, "Interactions as intertwiners in 4D QFT," JHEP1603, 165 (2016) [arXiv:1512.00652 [hep-th]].

69. A. Mohamed Adam Ali, R. de Mello Koch, N. H. Tahiridimbisoa and A. Larweh Mahu, "Interacting Double Coset Magnons," Phys. Rev. D **93**, no. 6, 065057 (2016) [arXiv:1512.05019 [hep-th]].

70. R. de Mello Koch, C. Mathwin and H. J. R. van Zyl, "LLM Magnons," JHEP 1603, 110 (2016) [arXiv:1601.06914 [hep-th]].

71. N. Bornman, R. de Mello Koch and L. Tribelhorn, "Rotating Restricted Schur Polynomials," Int. J. Mod. Phys. A **32**, no. 25, 1750150 (2017) [arXiv:1602.05675 [hep-th]].

72. R. de Mello Koch and H. J. R. van Zyl, "Inelastic Magnon Scattering," Phys. Lett. B **768**, 187 (2017) [arXiv:1603.06414 [hep-th]].

73. R. de Mello Koch, D. Gossman, L. Nkumane and L. Tribelhorn, "Eigenvalue Dynamics for Multimatrix Models," Phys. Rev. D **96**, no. 2, 026011 (2017) [arXiv:1608.00399 [hep-th]].

74. R. de Mello Koch, P. Rabambi, R. Rabe and S. Ramgoolam, "Free quantum fields in 4D and Calabi-Yau spaces," Phys. Rev. Lett. **119**, no. 16, 161602 (2017) [arXiv:1705.04039 [hep-th]].

75. R. de Mello Koch, P. Rabambi, R. Rabe and S. Ramgoolam, "Counting and construction of holomorphic primary fields in free CFT4 from rings of functions on Calabi-Yau orbifolds," JHEP **1708**, 077 (2017) [arXiv:1705.06702 [hep-th]].

76. R. de Mello Koch, R. Mello Koch, D. Gossman and L. Tribelhorn, "Gauge Invariants, Correlators and Holography in Bosonic and Fermionic Tensor Models," JHEP **1709**, 011 (2017) [arXiv:1707.01455 [hep-th]].

77. R. de Mello Koch and L. Nkumane, "From Gauss Graphs to Giants," arXiv:1710.09063 [hep-th].

Publications (chapters in books)

R. de Mello Koch, "Lectures on the gauge theory / gravity correspondence," Published in *Cotonou 2005, Contemporary problems in mathematical physics* 65-119, Oct 2006, ISBN: 978-981-256-853-3.

R. de Mello Koch and J. Murugan, "Emergent Spacetime," published in "Foundations of Space and Time Reflections on Quantum Gravity," edited by Jeff Murugan, Amanda Weltman, George F. R. Ellis, available from Oct 2011 ISBN-13: 9780521114400.

Publications (referred conference proceedings)

1. R. de Mello Koch and A.J. Willis, "Target Classification for phased array radar using the Minimum Norm Criterion," printed in the COMSIG 92 conference proceedings, pages 11-16, held at the University of Cape Town, October 1992. 2. A.J. Willis, R. de Mello Koch, B. Spear and A.Klopper, "A Maximum A-Posteriori Algorithm for Reconstruction of Signals in Incompletely Defined Correlated Noise." Paper presented at the IEEE Ant. and Prop. Soc. International Symposium, 1993 held at University of Michigan. Paper published in Vol 3 of the proceedings, pg 1876-1884.

3. A.J. Willis and R. de Mello Koch, "A Minimum Norm Array Processing Algorithm for Super Resolution Target Profiling." Paper presented at the Oceans '94 Oceans Engineering for Today's Technology and Tomorrow's Preservation, 13-16 September 1994 held in Brest, France. Paper published in Vol. 1 of the proceedings page 217-222.

4. A.J. Willis, R. de Mello Koch and Q. Ren, "Array Processing in Practical Noise Environments." Paper presented at the Oceans '95 MTS/IEEE Challenges of Our Changing Global Environment Conference, 9-12 October 1995 held in San Diego, CA, USA. Paper published in Vol. 2 of the proceedings page 1287-1295.

Publications (other)

Robert De Mello Koch and Frank Nabarro, "Why bother with physics?", Viewpoint interview for Quest Magazine, Vol. 1, Issue 3, 2005.

SUPERVISION OF GRADUATE STUDENTS I have a record of successful post graduate student supervision. Four of my students are now academics in permanent positions: Dr Garreth Kemp and Dr Nkululeko Nokwara are both lecturers at the University of Johannesburg. Dr Andrea Prinsloo is a lecturer at the University of Surrey, London. Dr Warren Carlson is a lecturer in the Department of Applied Mathematics at the University of the Witwatersrand. For all students I was the only supervisor.

- 1. Mike Abbott: MSc. registered in May 2000. Degree awarded in June 2003.
- 2. Rhiannon Gwyn: MSc. registered in January 2003. Degree awarded in June 2005.

3. Robert Fleming: Phd. in Electrical Engineering registered in May 2003. Degree awarded in June 2009.

- 4. Jelena Smolic: MSc. registered in January 2004. Degree awarded in July 2007.
- 5. Milena Smolic: MSc. registered in January 2005. Degree awarded in July 2007.
- 6. Norman Ives: MSc. registered in January 2005. Degree awarded in May 2007.
- 7. Andrea Prinsloo: MSc. registered in January 2005. Degree awarded in February 2007.
- 8. David Bekker: MSc. registered in January 2007. Degree awarded in February 2008.
- 9. Mike Stephanou: MSc. registered in January 2007. Degree awarded in February 2008.
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- 10. Wolobah Sali: MSc. registered in July 2007. Degree awarded in April 2009.
- 11. Storm Collins: MSc. registered in January 2008. Degree awarded in March 2009.
- 12. Mike Stephanou: PhD. registered in January 2008. Degree awarded in November 2010.
- 13. Norman Ives: PhD. registered in March 2008. Degree awarded in 2011.
- 14. Warren Carlson: MSc. registered in January 2009. Degree awarded June 2010.
- 15. Grant Mashile: MSc. registered in January 2009. Degree awarded in March 2011.
- 16. Nicholas Park: MSc. registered in January 2009. Degree awarded June 2010.
- 17. Vincent Da Commarmond: MSc. registered in January 2010. Degree awarded in 2011.
- 18. Stephanie Smith: MSc. registered in January 2010. Degree awarded in 2011.
- 19. Katherine Jefferies: MSc. registered in January 2010. Degree awarded in June 2011.
- 20. Badr Mohammed: PhD. registered in January 2010. Degree awarded in May 2013.
- 21. Nkululeko Nokwara: PhD. registered in January 2010. Degree awarded in September 2013.

22. Stephanie Smith: PhD. registered in January 2011. Degree awarded in December 2013.

- 23. Christopher Mathwin: MSc. registered in January 2011. Degree awarded in May 2013.
- 24. Matthias Dessein: MSc. registered in January 2011. Degree awarded in May 2013.
- 23. Garreth Kemp: PhD. registered in July 2011.
- 24. Wandile Mabanga: MSc. registered in January 2012.
- 25. Justine Tarrant: MSc. registered in January 2012. Degree awarded in December 2013.
- 26. Rocky Kreyfelt: MSc. registered in December 2012. Degree awarded July 2015.
- 27. Staurt Graham: MSc. registered in December 2012. Degree awarded December 2013.
- 28. Christopher Mathwin: PhD. registered in December 2012.
- 29. Nirina Maurice Hasina-Tahiridimbisona. MSc. registered in December 2012. Degree awarded December 2013.
- 30. Lwazi Nkumane. MSc. registered in January 2014. Degree awarded June 2015.
- 31. Phumudzo Rabambi. MSc. registered in January 2014. Degree awarded June 2015.
- 32. AbdelHamid Mohamed Adam Ali. MSc. registered in July 2014. Degree awarded June 2016.

33. Nirina Maurice Hasina-Tahiridimbisona. PhD registered in January 2014. Degree awarded February 2017.

- 34. Augustine Larweh Mahu. PhD registered in July 2014.
- 35. Nicholas Bournman: MSc registered Jan 2015. Degree awarded June 2016.
- 36. Randle Raabe: MSc registered Jan 2015. Degree awarded in May 2017.

- 35. Laila Tribelhorn: MSc registered Jan 2015. Degree awarded June 2016.
- 37. Lwazi Nkumane. PhD. registered in February 2015.
- 38. Phumudzo Rabambi. PhD. registered in February 2015.
- 39. David Gossman. MSc registered in Jan 2016. Degree awarded May 2017.
- 40. Kagiso Mathaba. MSc registered in Jan 2016. Degree awarded May 2017.
- 41. Shaun de Carvalho. MSc registered in Jan 2016. Degree awarded May 2017.
- 42. Esra Shriff. MSc registered in Jan 2016. Degree awarded May 2017.
- 43. Elie Danien Iarilala. MSc registered in Jan 2016. Degree awarded May 2017.
- 44. Laila Tribelhorn. Phd registered in June 2016.
- 45. Shaun de Carvalho. Phd registered in Feb 2017.
- 46. David Gossman. Phd registered in Feb 2017.
- 47. Elie Danien Iarilala. Phd registered in Feb 2017.
- 48. Eunice Gandote. MSc registered in Feb 2017.

SUPERVISION OF POST DOCTORAL FELLOWS For all fellows I was the only supervisor. Past post doctoral fellows, Dr Vonk, Dr Dey, Dr Raeymaekers, Dr. Giataganas, Dr. Zloshchastiev, Dr. Diaz, Dr. Caputa, Dr. Nampuri and Dr Hatefi are either still in post doc positions or have accepted permanent academic positions.

- 1. Dr Marcel Vonk (Netherlands), 8 months, 2008.
- 2. Dr Tanay Dey (India), 36 months, 2008 2010.
- 3. Dr Joris Raeymaekers (Belgium), 8 months, 2009.
- 4. Dr. Peter Roenne (Denmark), 12 months, 2010.
- 5. Dr. Dimitrios Giataganas (Greece), 48 months, 2009-2012.
- 6. Dr. Kostya Zloshchastiev (Ukraine), 12 months, 2012.
- 7. Dr. Pablo Diaz (Spain), 36 months, 2011-2014.
- 8. Dr. Pawel Caputa (Denmark), 24 months, 2012 2013.
- 9. Dr. Suresh Nampuri (India), 19 months, December 2013 June 2015.
- 10. Dr. Moritz McGarrie (UK), 7 months, December 2013 June 2014.
- 11. Dr Ehsan Hatefi (Iran), 14 months, October 2014 December 2015.
- 12. Dr Jaco Van Zyl (SA), 19 Months, January 2016-present.
- 13. Dr Minkyoo Kim (Korea), 7 Months January 2017 present.
- 14. Dr Ali Zahabi (Finland), 7 Months January 2017 present.
 - 12

In December 2014 together with Sanjaye Ramgoolam, I initiated a joint post doctoral fellowship scheme, between Queen Mary, University of London and the University of the Witwatersrand.