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EMPLOYMENT

2018–PRESENT	Postdoctoral Researcher Jülich Supercomputing Centre Forschungszentrum Jülich
2018	Postdoctoral Research Associate Department of Physics The University of Adelaide

EDUCATION

2013–2018	PhD in Physics The University of Adelaide Thesis: <i>On the Structure of Nucleon Excited States in Lattice QCD</i> Supervisors: Prof. Derek B. Leinweber and Dr. Waseem Kamleh
2009–2012	BSc (High Performance Computational Physics) (Honours) The University of Adelaide Thesis: <i>Visualisations of Coherent Center Domains in Local Polyakov Loops</i>

RESEARCH OUTPUT SUMMARY

Eight refereed journal publications: 4 as principal author; 272 citations total
Nine refereed conference proceedings: 25 citations total

TEACHING

2020–2021	Lecturer , Bergische Universität Wuppertal Introduction to High Performance Computing
2016–2017	Lecturer & Teaching Assistant , The University of Adelaide Computational Physics III
2013–2017	Exam & Assignment Marker Relativistic Quantum Mechanics & Particle Physics
2013	Teaching Assistant , The University of Adelaide Physics IB

SIGNIFICANT SCHOLARSHIPS AND AWARDS

2018	Harold Woolhouse prize For the best PhD thesis in the Faculty of Sciences at the University of Adelaide.
2018	South Australian nominee for the 2018 Bragg Gold Medal For the most outstanding physics PhD thesis from an Australian university.
2016	Intel Student Fellowship (awarded at LATTICE 2016) For outstanding research accomplishments in the field of Lattice QCD
2013–2016	Australian Postgraduate Award Awarded to students of exceptional research potential undertaking a HDR in Aus.
2013–2016	Norman and Patricia Polglase supplementary scholarship Awarded to 2 students commencing a HDR program in the Faculty of Sciences
2013	University medal , The University of Adelaide Awarded for outstanding academic performance to graduating honours students
2012	The H.S. Green Prize Awarded to the highest-placed first class honours student in theoretical physics
2012	Scantech/Playford Honours Physics Scholarship Awarded to 2 high achieving students commencing honours physics in South Aus.
2010–2012	Summer Research Scholarships (two consecutive summers) To undertake a six week research project at the University of Adelaide

SKILLS

- Strong understanding of **lattice QCD** and the standard model of **particle physics**
- Knowledge of a range of frequentist and Bayesian **statistical analysis techniques**
- Skilled at written and oral **communication of complex concepts** to varied audiences
- Experienced at designing and selecting algorithms for **scientific computing**
- Extensive experience with, **C**, **C++**, **Fortran**, **Python**, and other languages, including:
 - **OpenMPI** code for CPU clusters
 - **CUDA**, **OpenCL**, and **HIP** code for GPU clusters
- Experience installing and profiling **supercomputing hardware**
- Extensive experience using a variety of **Linux** distributions

PROFESSIONAL SERVICE AND OUTREACH

2015–2018	Software maintainer ANACM analysis software
2014–2016	Webmaster CSSM conference pages
2014–2015	Outreach Volunteer Open Day, The University of Adelaide

OTHER EXPERIENCE

2016–2019	Treasurer: Swing and Blues Dancing in Adelaide inc., Adelaide, SA Manage the financial and logistical resources involved in interstate dance events. Maintain website and registration system.
2012–2018	Club President: Jamalaide, Adelaide, SA Organise 24–72 hour coding challenges. Maintain website and database of challenge entries. Actively participate in events and mentor new members.

REFEREED JOURNAL PUBLICATIONS

- [1] Sz. Borsanyi, Z. Fodor, J. N. Guenther, C. Hölbling, S. D. Katz, L. Lellouch, T. Lippert, K. Miura, L. Parato, K. K. Szabo, F. M. Stokes, B. C. Toth, Cs. Torok, and L. Varnhorst, *Leading hadronic contribution to the muon magnetic moment from lattice QCD*, *Nature* **593** (2021) 7857, 51–55, [arXiv:2002.12347]
- [2] F. M. Stokes, W. Kamleh, and D. B. Leinweber, *Elastic Form Factors of Nucleon Excitations in Lattice QCD*, *Phys. Rev. D* **102** (2020) 014507, [arXiv:1907.00177]
- [3] F. M. Stokes, W. Kamleh, and D. B. Leinweber, *Opposite-Parity Contaminations in Lattice Nucleon Form Factors*, *Phys. Rev. D* **99** (2019) 074506, [arXiv:1809.11002]
- [4] A. L. Kiratidis, W. Kamleh, D. B. Leinweber, Z.-w. Liu, F. M. Stokes, and A. W. Thomas, *Search for low-lying lattice QCD eigenstates in the Roper regime*, *Phys. Rev. D* **95** (2017) 074507, [arXiv:1608.03051]
- [5] Z.-w. Liu, W. Kamleh, D. B. Leinweber, F. M. Stokes, A. W. Thomas, and J.-j. Wu, *Hamiltonian effective field theory study of the $N^*(1440)$ resonance in lattice QCD*, *Phys. Rev. D* **95** (2017) 034034, [arXiv:1607.04536]
- [6] Z.-w. Liu, W. Kamleh, D. B. Leinweber, F. M. Stokes, A. W. Thomas, and J.-j. Wu, *Hamiltonian effective field theory study of the $N^*(1535)$ resonance in lattice QCD*, *Phys. Rev. Lett.* **116** (2016) 082004, [arXiv:1512.00140]

- [7] F. M. Stokes, W. Kamleh, D. B. Leinweber, M. S. Mahbub, B. J. Menadue, and B. J. Owen, *Parity-expanded variational analysis for nonzero momentum*, *Phys. Rev. D* **92** (2015) 114506, [[arXiv:1302.4152](#)]
- [8] F. M. Stokes, W. Kamleh, and D. B. Leinweber, *Visualizations of coherent center domains in local Polyakov loops*, *Annals Phys.* **348** (2014) 341–361, [[arXiv:1312.0991](#)]

REFEREED CONFERENCE PROCEEDINGS

- [1] F. M. Stokes, W. Kamleh, and D. B. Leinweber, *Structure and transitions of nucleon excitations via parity-expanded variational analysis*, *PoS LATTICE2019* (2020) 182, [[arXiv:2001.07919](#)]
- [2] J. Biddle, J. Charvetto, W. Kamleh, D. B. Leinweber, H. Piercy, E. Puckridge, F. M. Stokes, R. D. Young, and J. Zanotti, *Publicizing Lattice Field Theory through Visualization*, *PoS LATTICE2018* (2019) 325, [[arXiv:1903.08308](#)]
- [3] J.-j Wu, J. M. M. Hall, H. Kamano, W. Kamleh, T. S. H. Lee, D. B. Leinweber, Z.-w. Liu, F. M. Stokes, and A. W. Thomas, *Nucleon Excited States from Lattice QCD and Hamiltonian Effective Field Theory*, *Few Body Syst.* **59** (2018) no.3, [[arXiv:1805.05066](#)]
- [4] W. Kamleh, D. B. Leinweber, Z.-w. Liu, F. M. Stokes, A. W. Thomas, S. Thomas, and J.-j. Wu, *Structure of the Nucleon and its Excitations*, *EPJ Web Conf.* **175** (2018) 06019, [[arXiv:1711.05413](#)]
- [5] A. L. Kiratidis, W. Kamleh, D. B. Leinweber, Z.-w. Liu, F. M. Stokes, and A. W. Thomas, *Spectroscopy with Local Multi-hadron Interpolators in Lattice QCD*, *PoS INPC2016* (2017) 269, [[arXiv:1704.08816](#)]
- [6] F. M. Stokes, W. Kamleh, D. B. Leinweber, and B. J. Owen, *Electromagnetic Form Factors of Nucleon Excitations in Lattice QCD*, *PoS INPC2016* (2017) 263 [[arXiv:1711.06568](#)]
- [7] Z.-w. Liu, J. M. M. Hall, W. Kamleh, D. B. Leinweber, F. M. Stokes, A. W. Thomas, and J.-j. Wu, *Study of Low-Lying Baryons with Hamiltonian Effective Field Theory*, *PoS INPC2016* (2017) 288, [[arXiv:1701.08582](#)]
- [8] F. M. Stokes, W. Kamleh, D. B. Leinweber, and B. J. Owen, *Electromagnetic Form Factors of Excited Nucleons via Parity-Expanded Variational Analysis*, *PoS LATTICE2016* (2016) 161, [[arXiv:1701.07177](#)]
- [9] D. B. Leinweber, W. Kamleh, A. L. Kiratidis, Z.-W. Liu, M. S. Mahbub, D. Roberts, F. M. Stokes, A. W. Thomas, and J.-j. Wu, *N^* Spectroscopy from Lattice QCD: The Roper Explained*, *JPS Conf. Proc.* **10** (2016) 010011, [[arXiv:1511.09146](#)]

CONFERENCE TALKS

- [1] *Hadronic vacuum polarisation from lattice QCD*,
QCD Workshop Taiwan 2021
- [2] *Structure and transitions of nucleon excitations via parity-expanded variational analysis*,
Advances in Lattice Gauge Theory 2019
- [3] *Structure and transitions of nucleon excitations from lattice QCD*,
Mini-Workshop Bled 2019: Electroweak Processes of Hadrons
- [4] *Structure and transitions of nucleon excitations via parity-expanded variational analysis*,
The 37th International Symposium on Lattice Field Theory (2019)
- [5] *Structure of Nucleon Excitations on the Lattice*,
QCD Downunder (2017)
- [6] *Electromagnetic Form Factors through Parity-Expanded Variational Analysis*,
The 26th International Nuclear Physics Conference (2016)
- [7] *Electromagnetic Form Factors through Parity-Expanded Variational Analysis*,
The 34th International Symposium on Lattice Field Theory (2016)
- [8] *Parity-Expanded Variational Analysis for Nonzero Momentum*,
New Directions in Subatomic Physics (2016)
- [9] *Parity Expanded Correlation Matrix Techniques at Non-Zero Momentum*,
The 5th International Workshop on Lattice Hadron Physics (2015)
- [10] *Visualisations of coherent centre domains in local Polyakov loops*,
The 21st Australian Institute of Physics Congress (2014)