Oliver R. Stockdale

Curriculum Vitae

Personal Information

Place & Date of Birth:	Durham, United Kingdom | 4 September 1997
Place of Residence:	Heidelberg, Germany
Citizenship:	British & Australian (naturalised)
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Education

Oct 2020 - Present	Doctor of Philosophy in Physics, **Kirchhof-Institut für Physik, Universität Heidelberg**, Germany
Apr 2019 - Sep 2020	Master of Philosophy in Physics, **ARC Centre of Excellence in Future Low-Energy Electronics Technologies, The University of Queensland**, Australia (**Submitted)**
Jan 2019	Australian and New Zealand School in Ultracold Physics, **The University of Otago**, New Zealand
Mar 2015 - Nov 2018	Bachelor of Advanced Science (Hons. I) in Physics, **The University of Queensland**, Australia
Jan 2018	Canberra International Physics Summer School on *Topological Matter*, **The Australian National University**, Australia
Sep - Dec 2016	Exchange Program, **University College London**, United Kingdom
Nov 2014	Queensland Certificate of Education, **Grace Lutheran College**, Australia

Research Experience

Oct 2020 - Present	PhD Project at Kirchhof-Institut für Physik, Universität Heidelberg Project aiming to study the entanglement of quantum fields detected through entropic uncertainty relations. Supervised by Priv. Doz. Dr. Martin Gärttner.
Apr 2019 - Sep 2020	MPhil Project at ARC Centre of Excellence in Future Low-Energy Electronics Technologies, The University of Queensland I aim to investigate the microscopic nature of vortex pinning in two-dimensional superfluids using numerical and analytical techniques. Supervised by Prof. Matthew Davis and Dr. Matt Reeves.
Feb - Mar 2019	Summer Research Project at The University of Queensland A study into the anomalous expansion of chiral vortex clusters in two-dimensional superfluids. Supervised by Prof. Matthew Davis and Dr. Matt Reeves
Jan 2018 - Nov 2019	Honours Project at The University of Queensland A year-long project investigating models of vortex dynamics in thin-film superfluid helium under the supervision of Prof. Matthew Davis and Dr. Matt Reeves, and in collaboration with Prof. Warwick Bowen using superfluid optomechanics experiments.
Nov 2016 - Feb 2018	Undergraduate Research at The University of Queensland I have carried out six undergraduate research projects in my time at UQ, working on various projects spanning quantum dynamics of Bose-Einstein condensates, computational cosmology, condensed matter theory, and the interplay between physics and biological systems.

Publications (and Preprints)

Oct 2020	M. T. Reeves, K. Goddard-Lee, G. Gauthier, **O. R. Stockdale**, H. Salman, T. Edmonds, X. Yu, A. S. Bradley, M. Baker, H. Rubinsztein-Dunlop, M. J. Davis, T. W. Neely, *Emergence of off-axis equilibria in a quantum vortex gas*. arxiv:2010.10049 (2020).
Jul 2020	**O. R. Stockdale**, M. T. Reeves, X. Yu, G. Gauthier, K. Goddard-Lee, W. P. Bowen, T. W. Neely, M. J. Davis, *Universal dynamics in the expansion of vortex clusters in a dissipative two-dimensional superfluid*. Physical Review Research **2**, 033138 (2020).
Dec 2019	Y. P. Sachkou, C. G. Baker, G. I. Harris, **O. R. Stockdale**, S. Forstner, M. T. Reeves, X. He, D. L. McAuslan, A. S. Bradley, M. J. Davis, W. P. Bowen, *Coherent vortex dynamics in a strongly-interacting superfluid on a silicon chip*. Science, **366**, 1480 (2019).

Service

Apr 2019 - Sep 2020	ARC Centre of Excellence in Future Low-Energy Electronics Technologies Special Governance Committee - Education and Training
May 2019 - Sep 2020	Chair, UQ Bose-Einstein Condensate Journal Club
May 2019 - Sep 2020	Volunteer at the UQ Physics Museum

Conferences

Jan 2020	10^{th} International Conference on Spontaneous Coherence in Excitonic Systems Contributed Talk
Dec 2018	23^{rd} Australian Institute of Physics Congress Poster Presentation

Teaching Experience

Semester 2, 2019	Tutor for PHYS3020 (Statistical Mechanics) at The University of Queensland
Semester 2, 2018 & Semester 1, 2019 & 2020	Laboratory Demonstrator for PHYS1002 (Electromagnetism and Modern Physics) at The University of Queensland
Semester 1, 2018, 2019, & 2020	Laboratory Demonstrator for PHYS1001 (Mechanics and Thermal Physics) at The University of Queensland
Semester 2, 2017	Tutor for PHYS1171 (Physical Basis of Biological Systems) at The University of Queensland
Semester 1, 2016 & 2017	Peer Assisted Study Session leader for PHYS1002 (Electromagnetism and Modern Physics) at The University of Queensland
Jan 2015 - Aug 2016	Academic Tutor at Grace Lutheran College

Scholarships and Awards

Jun 2019	Runner-Up, School of Mathematics and Physics 3-Minute Thesis Competition
Apr 2019 - Sep 2020	Research Training Program Stipend, Australian Government
Apr 2019 - Sep 2020	Research Training Program Tuition Fee Offset, Australian Government
Apr 2019 - Sep 2020	Research Higher Degree Top Up Scholarship, Australian Government
Feb - Mar 2019	Australian Research Council Centre of Excellence for Engineered Quantum Systems Work Experience Scholarship
Dec 2018	Best Poster by an undergraduate Student, FLEET Annual Meeting
Jun 2016	The University of Queensland Student Exchange Scholarship
May 2016 & 2017	Winter Research Scholarship, The University of Queensland (×2)
Nov 2015 & 2017	Summer Research Scholarship, The University of Queensland (×2)
Jul 2015, Jul 2018, Dec 2018	Dean's Commendation for Academic Excellence, The University of Queensland (×3)
Nov 2014	Runner-Up Dux of Grace Lutheran College

Referees

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