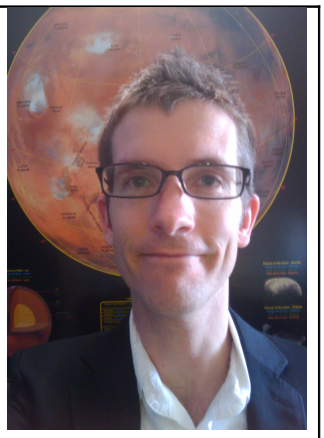
Compact Curriculum Vitae of Mark Sadgrove

Research Field	Keywords		
	Matterwave transport, Analog Computing, Quantum Chaos, Decoherence studies, Open-source instrumentation		
Name in Full (in Roman block letters)	Family Name / First Name / Middle Name Sadgrove Mark Paul		
Date of Birth & Age	1978/ 11 / 24 （Age 312 ）	Sex Male	
Nationality	New Zealand		
Address	１６６－０００３　東京都杉並区高円寺南４－１７－１２－２０４号		
Telephone	090-2251-7330　（mobile）		
E-mail	mark@ils.uec.ac.jp		

Education Record	Year/Month/Date	Degree
	1998/03/01- 2000/10/01	BSc (Physics, Mathematics) Mathematics Department/Physics Department, The University of Auckland
	2001/03/01- 2002/12/01	MSc (Physics) Physics Department, The University of Auckland Thesis: Late time diffusion structures for the quantum kicked rotor
	2003/03/01- 2006/06/19	PhD (Physics) Physics Department, The University of Auckland Thesis: Resonant quantum transport for kicked atoms: from classical stability to universal scaling laws.

<table>
<tr><td rowspan="5">Employment Record</td><td>2001/03/01 - 2004/03/01</td><td colspan="3">Lab demonstrator, Physics Teaching Lab, the University of Auckland</td></tr>
<tr><td>2001 - 2002</td><td colspan="3">2 hour lecture on “The physics of cold atoms” as part of Physics 202: Physics in Action (now discontinued), The University of Auckland</td></tr>
<tr><td>2005/10/01 - 2006/06/01</td><td colspan="3">Research Assistant, Leonhardt Lab, Physics Department, The University of Auckland</td></tr>
<tr><td>2006/07/01 - 2008/03/30</td><td colspan="3">JST CREST Post Doctoral Researcher, Shimizu Group, Nakagawa Laboratory, Institute for Laser Science, University of Electro-Communications, Chofu, Japan</td></tr>
<tr><td>2008/04/01 -</td><td colspan="3">Postdoctoral researcher, Nakagawa Lab, Institute for Laser Science, University of Electro-Communications, Chofu, Japan</td></tr>
<tr><td>Doctorate</td><td>2006/06/19</td><td colspan="3">PhD in Physics, The University of Auckland: “Resonant quantum transport for kicked atoms: from classical stability to universal scaling laws.”</td></tr>
<tr><td>Others</td><td colspan="4">(Activities in academic societies, Awards, etc.)

– Visiting researcher, University of Pisa, hosted by Sandro Wimberger (2004)
– Physics Department University of Auckland Prize for best Lab Demonstrator (2004)
– Visiting researcher, Max Planck Institute for study of complex systems, Dresden, hosted by Andreas Buchleitner (2005)
– Dan Walls Prize for best publication by a graduate student, Physics Department, University of Auckland (2005)
– Visiting researcher, Heidelberg University, Institute for theoretical physics, hosted by Sandro Wimberger (2008)
– Active reviewer for Physical Review Letters, Physical Review A, Physical Review E (2005 - present)</td></tr>
<tr><td rowspan="6">References

Outside Japan</td><td rowspan="3">1</td><td>Name (Family/First)</td><td>LEONHARDT, Rainer</td><td>Affiliation/Position</td></tr>
<tr><td>Telephone</td><td>++64 9 373 7599 x 88835</td><td rowspan="2">Associate Professor, Physics, The University of Auckland</td></tr>
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<tr><td rowspan="3">2</td><td>Name (Family/First)</td><td>WIMBERGER, Sandro</td><td>Affiliation/Position</td></tr>
<tr><td>Telephone
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S.Wimberger@thphys.uni-heidelberg.de</td><td>Group Leader of Complex Dynamics in Quantum Systems Group, University of Heidelberg</td></tr>
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</table>

	3	Name (Family/First)	SCHLEICH, Wolfgang	Affiliation/Position
		Telephone	+49 (731) 50-23080	Chair Professor of Theoretical Physics, University of Ulm
		E-mail	Wolfgang.Schleich@uni-ulm.de	
		Address	C/- Universität Ulm, Institut für Quantenphysik, D-89069 Ulm	
Outside University of Electro-communi-cations Within Uni-versity of Electro-communi-cations	4	Name (Family/First)	SHUDO, Akira	Affiliation/Position
		Telephone	042-677-1111	Associate Professor, Nonlinear Physics Group, Tokyo Metropolitan University
		E-mail	shudo@phys.metro-u.ac.jp	
		Address	C/- Nonlinear Physics Group, Dept. of Physics, Tokyo Metropolitan University, Minami-Ohsawa 1-1, Hachioji, Tokyo, Japan 192-0397	
	5	Name (Family/First)	NAKAGAWA, Ken'ichi	Affiliation/Position
		Telephone	042-443-5703	Associate Professor, Institute for Laser Science, The University of Electro-Communication, Chofu
		E-mail	nakagawa@ils.uec.ac.jp	
		Address	C/- Institute for Laser Science, The University of Electro-communication, 1-5-1 Chofugaoka, Chofu	

Research Achievements

I Journals (reviewed)

[16] M. Sadgrove and S. Wimberger, “Pseudo-classical theory for directed transport at quantum resonance”, New Journal of Physics, 11, 083027 (2009).

[15] M. Sadgrove, S. Kumar, K. Nakagawa, "Noise induced energy resonance for atoms in a periodic potential", Phys. Rev. Lett. 103, 010403 (2009).

[14] M. Sadgrove "Quantum amplitude amplification induced by phase noise", Europhys. Lett. 86, 50005 (2009).

[13] M. Sadgrove, S. Kumar, K. Nakagawa, "Signal processing with atom optics", Phys. Rev. A 79, 053618 (2009).

[12] M. Sadgrove, S. Kumar, K. Nakagawa, "Enhanced factoring with a Bose-Einstein condensate", Phys. Rev. Lett. 101, 180502 (2008).

[11] M. Sadgrove, S. Wimberger, S. Parkins, R. Leonhardt, "Scaling law and stability for a noisy quantum system", Phys. Rev. E 78, 025206R (2008).

[10] M. Sadgrove, M. Horikoshi, T. Sekimura, K. Nakagawa,”Coherent control of ballistic energy growth for a kicked Bose-Einstein condensate”, Euro. Phys. J. D 94,

DOI:10.1140/epjd/e2007-00277-3 (2007).

[9] M. Sadgrove, M. Horikoshi, T. Sekimura, K. Nakagawa, “Rectified momentum diffusion for a kicked Bose-Einstein condensate”,Phys. Rev. Lett. 99,0403002 (2007).

[8] S. Wimberger and M. Sadgrove,“The role of quasi-momentum in the resonant dynamics of the atom-optics kicked rotor”, J. Phys. A: Math. Gen. 38, 10549-10557 (2005).

[7] M. Sadgrove, T. Mullins, S. Parkins, and R. Leonhardt, “The effect of amplitude noise on the quantum and diffusion resonances of the atom-optics kicked rotor,” Physica E 29, 369 (2005).

[6] M. Sadgrove, S. Wimberger, S. Parkins, and R. Leonhardt, “Ballistic and localized transport for the atom optics kicked rotor in the limit of a vanishing kicking period,” Phys. Rev. Lett. 94, 174103 (2005).

[5] S. Wimberger, M. Sadgrove, S. Parkins, and R. Leonhardt, “Experimental verification of a one-parameter scaling law for the quantum and “classical” resonances of the atom-optics kicked rotor,” Phys. Rev. A 71, 053404 (2005).

[4] M. Sadgrove, T. Mullins, S. Parkins, and R. Leonhardt, “Deviations from early-time quasilinear behavior for the atom-optics kicked rotor near the classical limit,” Phys. Rev. E 71, 027201 (2005).

[3] G.J. Duffy, S. Parkins, T. Müller, M. Sadgrove, R. Leonhardt, and A.C. Wilson, “Experimental investigation of early-time diffusion in the quantum kicked rotor using a Bose-Einstein condensate,” Phys. Rev. E 70, 056206 (2004).

[2] M. Sadgrove, A. Hilliard, T. Mullins, S. Parkins, and R. Leonhardt, “Observation of robust quantum resonance peaks in an atom optics kicked rotor with amplitude noise,” Phys. Rev. E 70, 036217 (2004).

[1] M.E.K. Williams, M.P. Sadgrove, A.J. Daley, R.N.C. Gray, S.M. Tan, A.S. Parkins, N. Christensen, and R. Leonhardt, “Measurements of diffusion resonances for the atom optics quantum kicked rotor,” J. Opt. B: Quantum Semiclass. Opt. 6, 28 (2004).

II Commentaries, Surveys

[1] M. Sadgrove "Finding some sense in disorder", Physics 1, 41 (2008).

[2] M. Sadgrove and Sandro Wimberger, “A Pseudoclassical Method for the Atom-Optics Kicked Rotor”, Advances in Atomic Molecular and Optical Physics, Spring 2011.

(In press. Please contact editor Prof. Ernio Arimondo - arimondo@mail.df.unipi.it -for confirmation)

III Submitted papers

[1]``Phase-selected momentum transport in ultra-cold atoms”, Mark Sadgrove, Sandro Wimberger, and Ken'ichi Nakagawa, submitted to Phys. Rev. A (2011).

[2] “Microcontroller interrupts for flexible control of time critical tasks in experiments with laser cooled atoms”, Mark Sadgrove, submitted to American Journal of Physics (2011). (Also available online at arXiv:1104.0064v1).

[3] “Fast and precise externally triggered phase controller for an optical lattice”
M. Sadgrove, K. Nakagawa, submitted to Applied Physics B (2011).

IV Unpublished papers

[1] S. Wayper, M. Sadgrove, W. Simpson, M.D. Hoogerland "Atom optics kicked rotor: experimental evidence for a pendulum description of the quantum resonance”

arXiv:quant-ph/0504219v1

[2] T.G. Mullins, A.J. Hilliard, M. Sadgrove, M.D. Hoogerland, A.S. Parkins, and R. Leonhardt, “Quantum and Classical Effects in the Two-Frequency Kicked Rotor with Variable Initial Phase” arXiv:quant-ph/0409145v1

V Invited talks

[1] “位相変調された定在波ポテンシャル中の原子の量子運動” (Quantum motion of atoms in a phase modulated standing wave potential) at 非線形物理の新展開 (New directions in Nonlinear physics). Held at Ochanomizu University, Tokyo, March 7, 2011. (Talk given in Japanese. Invited by Kazue Kudou).

[2] “Matterwaves to factoring: manipulating matter waves with pulsed optical fields” at Quantum electronics research meeting, Karuizawa, December 12, 2010. (Invited by Takashi Mukaiyama).

[3] “Recent results for momentum transport in cold atoms” at New Aspects of Quantum Systems, Tokyo Metropolitan University, Tokyo, November 11 2010. (Invited by Akira Shudo).

[4] “Computing exponential sums with a Bose-Einstein condensate” at Physics of Quantum Electronics, Snowbird, USA, (Invited by Wolfgang Schleich) (2009).

VI Conferences

a) International
[1] International Conference on Laser Spectroscopy, Hokkaido, poster presentation (2009).

[2] “Quantum Physics of Nature conference”, Vienna, poster presentation (2005).

[3] “Frontiers of Quantum and Mesoscopic Thermodynamics conference”, Prague, poster presentation. (2004).

[4] “Young Atom Opticians conference”, Amsterdam, poster presentation (2003).

[5] “Quantum Chaos Conference”, Como, Italy, poster presentation (2003)

[6] “CLEO conference”, Munich, poster presentation (2003).

b) Academic meetings inside Japan

[1] JST CREST meeting, Poster Presentation (2010).

[2] “JPS meeting”, Osaka, oral presentation (2008).

[3] “JPS meeting”, Morioka, oral presentation (2008).

[4] “JST CREST meeting”, Nara, poster presentation (2008).

[5] “JPS meeting” Kagoshima, oral presentation (2007).

[6] “JST CREST meeting”, Hakone, poster presentation (2006).

VII Non-academic publications

[1] “A physicist in Tokyo”, Mark Sadgrove, Too Much Magazine Issue 1 (2010).

http://toomuchmagazine.com/issues/issue-1--fall-2010/

VIII Non-academic invited talks

[1] “Sound actuators” - one hour talk at electronics course for arts students, Loop-line, Tokyo, January 17, 2010. (Talk given in Japanese. Information about the course can be learned from course organizer Manabu Suzuki: zbnmsk@gmail.com)

IX Press regarding my research

[1] “Dr. Mark Sadgrove/ Physicist”. Cameron McKean, The Interwork (2010).

http://theinternetwork.com.au/dr-mark-sadgrove-physicist/

[2] “Factoring using a Bose-Einstein Condensate”, Ken'ichi Nakagawa,

“Parity” physics magazine (2008). (In Japanese).

[3] “Physicists use Bose-Einstein condensate to enhance factoring”. Lisa Zyga, PhysOrg.com (2008).

http://www.physorg.com/news145535050.html

	X Non-academic activites [1] Member of “Eleven” artist collective (leader Fumihito Taguchi). Speciality: Handmade sound devices. Selected performance: “Eleven” perform at Asahi Art square, July 28, 2010.