

Personal details

Date of birth	06. Sept. 1978, Berlin-Charlottenburg
Residence	15 Birchdale st, Salisbury, Qld 4107
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Nationality	German, permanent residency for Australia
Marital status	married

Education

Since 01.01.2004	PhD-Degree in Physics Titel : „Pulsed quantum control and quantum information“ in the Quantum Technology Laboratory of Dr. Andrew White	University of Queensland
1998-2003	Degree of Physics, Grade 2.0 (=good) (Diplom Physik, approx. equivalent to a Masters)	University of Potsdam
Feb.2003 - Oct.2003	Diploma thesis at the chair for photonics, Institute of Physics “Generation of entangled photons through optical parametric down-conversion using femtosecond pulses for a certain quantum cryptography protocol”, Grade 2.0 (=good)	University of Potsdam
July 1998	Abitur (High School Certificate), Grade 1.8 Approx. equivalent to OP 3 Major Subjects: English, Chemistry, Physics, Political History Student Exchanges to: England, Australia	

Language skills

German	native speaker
English	native speaker
French	intermediate

Career Development

- 2004-2007 Tutoring various first year physics courses (Mechanics, Electromagnetics, Optics and Quantum Physics) at the University of Queensland.
- 2000, 2001 and 2003 Tutoring the first year experiments for non-physics-students at the University of Potsdam.
- 01.11.2001- 30.10.2003 Student-researcher at the Chair of Photonics at the Institute of Physics at the University of Potsdam.
Field of work: Construction and optimisation of high power and frequency stabilized Nd:YAG-Lasersystems and servicing the computer system.
- 01.07.1999 - 31.06.2000 Student-researcher at the Chair of Applied physics of condensed matter at the Institute of Physics at the University of Potsdam.
Field of work: Inducing and characterising piezoelectricity in porous polytetrafluoroethylene (PTFE).

Publications

- **T.J. Weinhold**, K.J. Resch, A. Gilchrist, J.L. O'Brien, G.J. Pryde, and A.G. White, "Error budget for a quantum Gate" to be submitted to Phys. Rev. Lett.
- **T.J. Weinhold**, B.P Lanyon, M. Barbieri, A.G. White, "Bright sources degrade optical gate performance" to be submitted to Phys. Rev. Lett.
- **T.J. Weinhold**, B.P Lanyon, M. Barbieri, K.J. Resch, A.G. White, "Three-particle non-locality: violation of Svetlichny's inequality" to be submitted to Phys. Rev. Lett.
- **T.J. Weinhold**, B.P Lanyon, K.J. Resch, J.L. O'Brien, N.K. Langford, , A.G. White, "Generation of qubit-qutrit entanglement" to be submitted to Phys. Rev. Lett.
- B.P Lanyon, **T.J. Weinhold**, N.K. Langford, K.J. Resch, A.G. White, "Polariser and Waveplate in the qutrit space" to be submitted to Phys. Rev. Lett.
- B.P. Lanyon, **T.J. Weinhold**, N.K. Langford, M. Barbieri, D.F.V James, A. Gilchrist, and A.G. White, "Experimental demonstration of Shor's algorithm with quantum entanglement", quant-ph/0705.1684 (2007) (submitted to Phys. Rev. Lett.).
- K.J. Resch, J.L. O'Brien, **T.J. Weinhold**, K. Sanaka, A.G. White, "Entanglement generation by Fock-state filtration", Phys. Rev. Lett. **98**, 203602 (2007).
- N. K. Langford, **T. J. Weinhold**, R. Prevedel, K. J. Resch, A. Gilchrist, J. L. O'Brien, G. J. Pryde, A. G. White, "Demonstration of a simple entangling optical gate and its use in Bell-state analysis" Phys. Rev. Lett., **95**, 210504 (2005).
- R. Gerhard-Multhaupt, W. Künstler, T. Görne, A. Pucher, **T. Weinhold**, M. Seiß, Z. Xia, A. Wedel, R. Danz, „Porous PTFE Space-Charge Electrets for Piezoelectric Applications“, IEEE Transaction on Dielectrics and Electrical Insulation **7**, 480 (2000).
- W. Künstler, Z. Xia, **T. Weinhold**, A. Pucher, R. Gerhard-Multhaupt, „Piezoelectricity of porous polytetrafluoroethylene single- and multiple-film electrets containing high charge densities of both polarities“, Applied Physics A **70**, 5 (2000).

Presentations

- **T. J. Weinhold**, Kevin J. Resch, G. J. Pryde, J. L. O'Brien, A.G. White, "Independent photons in optical quantum technologies", Presented at the AIP-Conference in Brisbane (Dec. 06)
- **T. J. Weinhold**, Kevin J. Resch, J. L. O'Brien, G. J. Pryde, A.G. White, "The good and the bad of double-pair down-conversion in quantum information", Poster presentation at the QCMC-Conference in Tsukuba, Japan (Dec. 06)
- Participated at the LOQUIP-Workshop in Baton Rouge, USA (Apr. 06)
- **T. J. Weinhold**, J. L. O'Brien, G. J. Pryde, Kevin J. Resch, A.G. White, "Multi-qubit circuits with a simplified entangling gate", Poster presentation at the ACOLS-Conference in Rotorua, New Zeland (Dec. 05)
- **T. J. Weinhold**, G. J. Pryde, J. L. O'Brien, A.G. White, "Small quantum circuits for optical quantum computing", Poster presentation at the AIP-Conference in Canberra (Jan. 2005)
- **T. J. Weinhold**, G. J. Pryde, J. L. O'Brien, A.G. White, "Quantum information with pulsed photons", Poster presentation at the AOS-Conference in Canberra (July 2004)
- **T. Weinhold**, M. Ostermeyer, R. Menzel. "Optical parametric down-conversion for the realization of a certain quantum cryptography protocol", Presented during the DPG-Meeting in Hannover, Germany (Mar. 2003)
- **T. Weinhold**, M. Seiß, W. Künstler, T. Görne, R. Gerhard-Multhaupt, „Porous Polytetrafluoroethylene (PTFE) single-film space-charge electrets with high piezoelectric coefficients“, IEE Dielectric Materials, Measurements and Application, Conference Publication No. 473, pp. 380-385, 2000, Presented during the IEE Meeting in Edinburgh (Sep. 2000)

Group Visits

- 04/04/06 - 07/04/06 Visited the Quantum Information Group led by Paul Kwiat at the University of Illinois in Urbana-Champaign , USA.

Brisbane, 21. May 2007

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