

TOMER SHACHAM

CURRICULUM VITAE

CONTACT INFORMATION

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PERSONAL INFORMATION

Born 1983, Married +3.

PROFESSIONAL EXPERIENCE

2007 - 2009 Intel Corp. Jerusalem Development Center. Team leader, C# programmer and FPGA code validation engineer.

ACADEMIC EDUCATION

2013 - 2014 Hebrew University of Jerusalem – Postdoctoral fellow (Astrophysics)

2011 - 2013 Hebrew University of Jerusalem – Ph.D in Physics (Quantum Field Theory and Particle Physics)

2008 - 2010 Hebrew University of Jerusalem – M.Sc. in Physics, GPA 94.4, **Graduated first in class**.
(Experimental quantum optics, Thesis title : “Scalable Multiphoton Entanglement in Space and Time”)

2005 - 2007 Hebrew University of Jerusalem – B.Sc. in Physics, GPA 91.2
(Final Project: Designed and built a sub-nanosecond synchronization module for single photon detectors.)

INTERESTS

My previous research was experimental (Quantum Optics), computational (FPGA design and implementation) and theoretical (Quantum Field Theory and Astrophysics). I will gladly study any interesting physical / mathematical / computational problem, in any field of science.

TEACHING EXPERIENCE

2010 - Lab Instructor: Lasers, Spectroscopy, Auto-resonant Systems

2008 - 2011 Teaching Assistant: Classical Mechanics, Electromagnetism, Thermodynamics, Solid-state Physics.

LANGUAGES

Hebrew & English – Mother tongue, Spanish – Semi-fluent

LIST OF PUBLICATIONS

Astrophysics:

“On Continuum-driven winds from rotating stars”,
T. Shacham & N.J. Shaviv, *The Astrophysical Journal*, **757** (2012)

“YORP Effects on Asteroid Diffusion”,
T. Shacham & E. Steinberg, *work in progress*

“A new mechanism for pulsation of massive stars?”
T. Shacham, I. Idan & N.J. Shaviv, *Accepted by ADS*

Quantum Field Theory:

“The Vacuum Structure of the 3-2 model”,
T. Shacham, *Journal of High Energy Physics*, **87** (2012)

“A Non-Renormalization Theorem in Gapped Quantum Field Theory”,
T. Shacham, *Journal of High Energy Physics*, **147** (2013)

“Mass Gap vs Lorentz Invariance”,
T. Shacham & A. Zait, *work in progress*

Beyond Standard-Model Physics:

“On the spectrum of direct gaugino mediation”,
R. Auzzi, A. Giveon, S. Gudnason and T. Shacham, *Journal of High Energy Physics*, **108** (2011)

“A Light Stop with Flavor in Natural SUSY”,
R. Auzzi, A. Giveon, S. Gudnason and T. Shacham, *Journal of High Energy Physics*, **169** (2013)

Quantum Optics:

“Projection of Two Biphoton Outlets onto a Maximally Entangled State”,
A. Halevy, E. Megidish, T. Shacham, L. Dovrat, and H. S. Eisenberg, *Phys. Rev. Lett.* **106**, (2010)

“A Resource Efficient Source of Multi-photon Polarization Entanglement”,
E. Megidish, T. Shacham, A. Halevy, L. Dovrat, H. S. Eisenberg, *Phys. Rev. Lett.* **109**, (2012)

“Entanglement Between Photons that have never coexisted”
E. Megidish, A. Halevy, T. Shacham, T. Dvir, L. Dovrat, and H. S. Eisenberg, *Phys. Rev. Lett.* **110**, (2013)

“Entangling Light: Multiphoton Entanglement in Space and Time”,
T. Shacham, *LAP* [978-3659248313]

“Quantum tomography of inductively created multiphoton states”
E. Megidish, A. Halevy, T. Shacham, T. Dvir, L. Dovrat, and H. S. Eisenberg, *work in progress*