

# Itamar Sela - Curriculum Vitae

## Personal Details

Born: September 14, 1979, Israel

Marital status: single

Citizenship: Israeli

## Contact Information

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## Work Experience

### **Physicist – HP, Indigo devision**

R&D, ink testing and media group.

**2011 to present**

### **Postdoctoral associate**

Department of Chemistry, Ben-Gurion University

Area of Study: Biophysics and computational biology

Adviser: Dr. David B. Lukatsky

**2010 to 2011**

### **Lecturer and teaching assistant, Ben-Gurion University**

Introduction to physics 1 - Lecturer (2006 to 2011)

Given to first year undergraduate Natural Science and Engineering faculties students.

Quantum mechanics 2 - teaching assistant (2007 to 2009)

Given to third year undergraduate physics students.

Physics 1, Physics 2 - teaching assistant (2004 to 2007)

Given to first and second year undergraduate Engineering faculties students.

**2004 to 2011**

## Education

### **Ph.D., Physics**

Department of Physics, Ben-Gurion University

Area of Study: Theoretical quantum physics

Thesis Title: Quantum Stirring in low dimensional devices

Adviser: Prof. Doron Cohen

**2005 to 2010**

### **M.Sc., Physics**

Department of Physics, Ben-Gurion University

Area of Study: Theoretical quantum physics

Thesis Title: Operating a quantum pump in a closed circuit

Adviser: Prof. Doron Cohen

**2003 to 2005**

### **B.Sc., Physics**

Department of Physics, Ben-Gurion University

Graduated with honors

**2001 to 2003**

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## Skills

Experienced in bio-informatical calculations, including analysis and numerical study of biological data, as well as applying statistical mechanics for biological systems modeling. Strong theoretical background in quantum mechanics, including construction of numerical simulations for quantum systems using Matlab, along with analytical study of those systems using advanced analytical tools. Experienced in teaching course with up to 180 students and running staff of up to 4 teaching assistants.

## Publications

1. **I. Sela** and D. Cohen, *Operating a quantum pump in a closed circuit*, J. Phys. A 39, 3575-3592 (2006).
2. **I. Sela** and D. Cohen, *Quantum Stirring in low dimensional devices*, Phys. Rev. B 77, 245440(5) (2008).
3. **I. Sela** and D. Cohen, *Quantum dynamics and transport in a double well system*, Phys. Rev. B 78, 155404(10) (2008).
4. J. Aisenberg, **I. Sela**, T. Kottos, D. Cohen and A. Elgart, *Quantum decay into a non-flat continuum*, J. Phys. A 43, 095301(10) (2010).
5. **I. Sela**, J. Aisenberg, T. Kottos, A. Elgart and D. Cohen, *Anomalous decay of a prepared state due to non-Ohmic coupling to the continuum*, Phys. Rev. E 81, 036219(13) (2010).
6. **I. Sela**, J. Aisenberg, T. Kottos and D. Cohen, *Quantum anomalies and linear response theory*, J. Phys. A (FTC) 43, 332001(8) (2010).
7. **I. Sela** and D. B. Lukatsky, *DNA Sequence Correlations Shape Nonspecific Transcription Factor-DNA Binding Affinity*, Biophys. J. 101(1), 160 (2011).
8. A. Afek, **I. Sela**, N. Musa-Lempel, and D. B. Lukatsky, *Nonspecific transcription factor-DNA binding influences nucleosome occupancy in yeast*, Biophys. J. 101(10), 2465 (2011).

## Talks (partial list)

- *Quantum decay into a non-flat continuum*, Condensed-Matter seminar, BGU, 2009.
- *Quantum Stirring of electrons in low dimensional devices*, The Annual Meeting of the Israel Physical Society, 2008.
- *Quantum Stirring of electrons in low dimensional devices*, Deutsch-Israelische Projektkooperation (DIP) workshop, University of Munich, 2008.
- *Quantum dynamics and transport in a double well system*, Theory seminar, Wesleyan University, 2008.
- *Operating a quantum pump in a closed circuit*, invited talk, Dynamics of Electrons and Collective Modes in Nanostructures - Deutsch-Israelische Projektkooperation (DIP) meeting, BGU, 2007.
- *Quantum pumping on a ring*, Condensed-Matter seminar, BGU, 2005.

## Visited schools and workshops (partial list)

- *Physics Meets Biology*, St. Catherine's College, Oxford, 2010.
- *Unique Molecular Effects in Electronic Materials and Devices*, Minerva School, Safed, Israel, 2007.

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## Languages

Hebrew (native), English (fluent), French (good)

## References

Available upon request.

## Hobbies

Mountain biking.