

CURRICULUM VITAE

Dr. Vladislav Shteeman, Senior Lecturer - EEE Department

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Date of Birth: April, 7, 1973

Place of Birth: Gorky (currently Nijnii Novgorod), Russia

EDUCATION

Ph.D. 2011, Electrical Engineering, Faculty of Engineering, Electrical Engineering – Physical Electronics Department, Tel Aviv University, Tel Aviv, Israel

Dissertation: “Analysis of 2D Arrays of Photonic Components”

M.Sc. 2001, Physics, Faculty of Physics, Technion – Israel Institute of Technology, Haifa, Israel

Thesis: “Spectroscopy of Photonic Quantum Structures”

M.Sc. 1995, Physics, Faculty of Applied Physics and Microelectronics, Nijnii Novgorod State University, Nijnii Novgorod, Russia

Thesis: “Growth and X-rays Analysis of Modified Rochelle Salt Crystals”

ACADEMIC EXPERIENCE

2014 – Present Senior Lecturer, Department of Electrical and Electronic Engineering, ORT Braude College, Karmiel, Israel

2011 – 2014 Lecturer, Department of Electrical and Electronic Engineering, ORT Braude College, Karmiel, Israel

- 2009 – 2011 Adjunct Lecturer, Department of Electrical and Electronic Engineering, ORT Braude College, Karmiel, Israel
- 1999 – 2001 Teaching Assistant, Faculty of Physics, Technion – Israel Institute of Technology, Haifa, Israel

PROFESSIONAL EXPERIENCE

- 2009 – Present Lecturer, Department of Electrical and Electronic Engineering, ORT Braude College, Karmiel, Israel
- 2005 – 2011 Physics Teacher at Ironi Beth high school, Haifa, Israel
- 1995 – 1997 Electrician at Gorky Automobile Plant, Nijni Novgorod, Russia

TEACHING EXPERIENCE

A. ORT Braude College

Undergraduate Courses:

- Semiconductor Devices
- Advanced Laboratory for Characterization of Semiconductor Devices (new course)
- Introduction to Electrical Engineering
- Introduction to Electro-Optics
- Electro-optical components (theoretical background) (new course)
- Advanced electronic devices

Development of Laboratories and Courses:

- Advanced laboratory for Characterization of Semiconductor Devices (new lab)
- Electro-optical components (theoretical background) (new course)
- Semiconductor Devices (re-developed course)
- Introduction to Electro-Optics (re-developed course)
- Advanced electronic devices (re-developed course)

B. Other Universities or Colleges

Technion

Undergraduate Courses:

Physics Laboratory 1

LIST OF PUBLICATIONS**A. Refereed Papers**

1. L. Giladi, E. Smith, V. Shteeman, A. Hardy, Application of the standard coupled-mode formalism to the analysis of holey photonic crystals *Journal of Modern Optics (Taylor & Francis)*, Vol. 66, Issue 6, pp. 618-628 (2018) (DOI: 10.1080/09500340.2018.1559950)
2. E. Smith, V. Shteeman, A. Hardy, Analysis of optical characteristics of holey photonic crystal devices with extended coupled-mode formalism, *Optical and Quantum Electronics (Springer)*, 49:424 (2017) (DOI: 10.1007/s11082-017-1245-7)
3. E. Smith, V. Shteeman, A. Hardy, Analytical Approximation for Photonic Array Modes in 2D Photonic Crystal Lattices, *Applied Optics*, Vol. 55, No. 15, pp. 3942 – 3951 (2016)
4. E. Smith, V. Shteeman, A. Hardy, Analytical Approximation for Photonic Array Modes in 1D Photonic Crystal Superlattices, *Applied Optics*, Vol. 55, No. 10, pp. 2819 – 2826 (2016)
5. E. Smith, V. Shteeman, A. Hardy, Analytical Approximation for Photonic Array Modes in One-Dimensional Photonic Crystal Devices, *Applied Optics*, Vol. 52, No. 8, pp. 1743 – 1751 (2013)
6. V. Shteeman, A. Hardy, Analysis of Advanced Photonic Devices with Time-Dependent Coupled Mode Equations, *Optical Engineering*, Vol. 51, No. 5, pp. 054001-1 – 054001-6 (2012)
7. V. Shteeman, A. Hardy, Time-Dependent Coupled Mode Analysis of Parallel Waveguides, *Journal of the Optical Society of America B*, Vol. 27, No. 4, pp. 735-741 (2010)
8. V. Shteeman, A. Hardy, E. Kapon et al, Analysis of Photonic Crystals with Defects Using Coupled-mode Theory, *Journal of the Optical Society of America B*, Vol. 26, No. 6, pp. 1248-1255 (2009)
9. V. Shteeman, A. Hardy, E. Kapon et al, Extension of Coupled Mode Analysis to Infinite Photonic Superlattices, *IEEE Journal of Quantum Electronics*, Vol. 44, No. 9, pp.826-833 (2008)
10. V. Shteeman, A. Hardy, E. Kapon et al, Extension of Coupled Mode Analysis to Infinite Arrays of Identical Waveguides for Photonic Crystals Applications, *Institute of Electrical and Electronics Engineers (IEEE) Journal of Quantum Electronics*, Vol. 43, No. 3, pp. 215-224 (2007)

11. V. Shteeman (Zhuk), A. Forchel et al, Near-field Mapping of the Electromagnetic Field in Confined Photon Geometries, *Physical Review B*, Vol. 66, pp. 115302-1 – 115302-8 (2002)
12. V. Shteeman (Zhuk), S. G. Lipson et al, Surface Plasmon Resonance Phase Imaging, *Applied Physics Letters*, Vol. 76, No. 13, pp. 1665-1667 (2000)

B. Papers Submitted to Refereed Journals

1. E. Smith, V. Shteeman, A. Hardy, Analytical Approximation for Photonic Array Modes in 2D Photonic Superlattices, submitted to the *Photonics and Nanostructures (Elsevier)*

C. Books

1. *Coupled-mode theory of parallel waveguides: basics and application to advanced photonic devices (with Matlab examples)*, co-author with Prof. A. A. Hardy (in preparation for publication). (English)

D. Conference Proceedings

1. N. Shitrit, V. Shteeman, A. Hardy, General Analytical Coupled-mode Solution of Multiwaveguide Systems. *Proc. 2018 IEEE International Conference on the Science of Electrical Engineering (ISCEE) (Israel)*, (2018) (DOI: 10.1109/ICSEE.2018.8646310)
2. N. Shitrit, V. Shteeman, A. Hardy, Reformulation of Coupled-Mode Theory of Parallel Waveguides for Analysis of Arbitrary Beams. *Proc. 2018 IEEE International Conference on the Science of Electrical Engineering (ISCEE) (Israel)*, (2018) (DOI: 10.1109/ICSEE.2018.8646249)
3. E. Smith, L. Giladi, V. Shteeman, A. Hardy, Analysis of optical characteristics of holey photonic crystals with extended coupled-mode formalism. *Proc. 2016 IEEE International Conference on the Science of Electrical Engineering (ISCEE)* (English)
4. E. Smith, L. Giladi, V. Shteeman, A. Hardy, Analytical Approximation for Photonic Array Modes in 2D Photonic Devices. *Proc. 2016 IEEE International Conference on the Science of Electrical Engineering (ISCEE)* (English)
5. L. Giladi, E. Smith, V. Shteeman, E. Kapon, A. Hardy, Coupled-mode analysis of holey photonic crystals. *Proc. IEEEI 2014, 2014 IEEE 28th Convention of Electrical*

and Electronics Engineers in Israel (English), pp. 1-5 (2014). **Best student paper award**

6. E. Smith, L. Giladi, V. Shteeman, E. Kapon, A. Hardy, Analytical approximation for photonic array modes in large 1D photonic crystal devices. *Proc. IEEEI 2014, 2014 IEEE 28th Convention of Electrical and Electronics Engineers in Israel* (English), pp. 1-5 (2014)
7. E. Smith, V. Shteeman, E. Kapon, A. Hardy, Fast approximate derivation of photonic supermodes in one-dimensional photonic crystal devices. *Proc. IEEEI 2012, 2012 IEEE 27th Convention of Electrical and Electronics Engineers in Israel* (English), pp. 1-5 (2012)
8. E. Smith, V. Shteeman, A. Hardy, Time-dependent coupled mode analysis of advanced photonic micro devices. *Proc. IEEEI 2012, 2012 IEEE 27th Convention of Electrical and Electronics Engineers in Israel* (English), pp. 1-5 (2012)
9. V. Shteeman, A. Hardy, Analysis and design of large-sized 2D photonic crystal devices. *Proc. IEEEI 2008, 2008 IEEE 25th Convention of Electrical and Electronics Engineers in Israel* (English), pp. 694-698 (2008)