Curriculum vitae MR

ROSENBLIT MICHAEL

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SUMMARY

R&D in photonics and chemical physics; ultracold finite system, atom chip photonics, atom–light interaction, bio-chip, development of MOEMS technologies for optical applications (microresonators, optical attenuators, amplifiers, switches, spot size convectors (SSC), fiber to waveguide and laser to waveguide coupling); measurement on surfaces, development of new active medium for lasers; ultrafast spectroscopy; internal and external dynamics of electron in dielectrics, bubble dynamics; development of new fibers for optical telecommunication and for special purposes; development and exploitation of dispersion management devices and passive elements for telecommunication systems; elaboration and testing sensor system, metrology, technical accompaniment to promote data and exploitation of optics, chemical physics and heat technology devices; development of algorithms and programming in nanophotonics, fiber optics, physics and chemistry.

ACADEMIC:

1995 Ph.D. in Chemical Physics
Tel-Aviv University, Faculty of Exact Sciences, School of Chemistry

1976 M.Sc. in Physics
Tomsk State University, Russia, Physics Department

EXPERIENCE:

2003-present Ben-Gurion University of the Negev, Researcher

Photonics for different application of nanostructures. Atom – light and atom – surface interactions. Research, design and simulation of microresonant cavities, nanotubes, amplifiers, biosensors, etc. Research and development of tunable devices.

2001-2003 GalayOr Inc., Simulation Team Leader

Development of waveguides based devices (optical attenuators, switches, spot size convectors).
Fiber and waveguide optics design to optimize insertion loss, PDL, WDL, mode mismatch and mode dispersion in silicon fabricated devices.
Simulation and optimization of back reflection and anti reflecting coating.
Optical simulation using commercial and self developed CAD software.

1998-2001 LaserComm Inc., Simulation Group Leader

Fiber optics design, simulation and development of new fibers.
Optic system simulations.

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Dispersion management.
Passive elements and devices for telecommunication system.

1995-2001 Tel-Aviv University, Research Scientist

Dynamics of excess electron internal states.
Finite-size systems of the superfluid liquid helium.
Helium, Neon and Hydrogen clusters.
Ultra-fast time-resolved spectroscopy.
Simulation, scientific calculation and programming in physics and chemistry.

1989-1994 Tel-Aviv University, Ph.D. student

Measurements on surfaces. Excess electron surface states.
Dynamics and Spectroscopy.

1980-1988 Scientific Research, Automatic and Metrology Center,
The Academy of Science of Moldova, Group Leader

Elaboration and testing sensor system (temperature-sensitive elements,
light optics system and micro-potential electrodes).
Theoretical and technical accompaniment to promote data and
to exploit devices and apparatus of the chemical physics
analysis, heat technology and optics system for customers.
Metrology of chemical physics, heat technology and optics devices.

1976-1979 Tomsk State University, Russia, Assistant

Exclusion of the nonradiative processes (quenching) in the
preparation of the active medium for lasers.

SELECTED PUBLICATIONS

1. "Design of microcavity resonators for single-atom detection",
   M. Rosenblit, P. Horak, E. Fleminger, Y. Japha, and R. Folman
   J. Nanophotonics. 1, 011670 (2007).
2. "Simultaneous optical trapping and detection of atoms by microdisk
   resonator", M. Rosenblit, Y. Japha, P. Horak, and R. Folman
   Physical Review A **73**, 063805 (2006).
3. "Ultracold large finite system", Joshua Jortner and Michael Rosenblit,
   Advances in Chemical Physics, Volume **132**, 247-343 (2006).
4. "Electron bubbles in helium clusters. I. Structure and energetics"
   Michael Rosenblit and Joshua Jortner **,** J. Chem. Phys. **124**, 194505 (2006)**.**
5. "Electron bubbles in helium clusters. II. Probing superfluidity",
   Michael Rosenblit and Joshua Jortner**,** J. Chem. Phys. **124**, 194506 (2006)**.**

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6. "Single atom detection using whispering gallery modes of microdisk resonator", M. Rosenblit, P. Horak, S. Helsby, R. Folman Physical Review A **70**, 053808 (2004).
7. "Long-range potential for excess electron surface states on helium clusters", M. Rosenblit, J.Jortner, Polish Journal of Chemistry 72, 1447-1453 (1998)
8. "Dynamics of Excess Electron Localization in Liquid Helium and Neon". M. Rosenblit, J.Jortner, Journal of Physical Chemistry A101, 751-757 (1997)
9. "Binding of electrons to the surface of helium clusters" M. Rosenblit, J.Jortner, Physical Review B52, 17461-7 (1995)
10. "Dynamics of the formation of an electron bubble in liquid helium" M. Rosenblit, J.Jortner, Physical Review Letters, 75, 4079-82 (1995)
11. "Excess electron surface states on helium clusters" M. Rosenblit, J.Jortner, Journal of Chemical Physics 101, 9982-86 (1994)
12. "Excess electron surface states on the microsurfaces of Ne and H2 clusters" M. Rosenblit, J.Jortner, Journal of Chemical Physics 101, 8039-47 (1994)
13. "Excess electron surface states on clusters" M. Rosenblit, J.Jortner, Journal of Physical Chemistry 98, 9365-70 (1994)

PROCEEDINDS (2004-2006)

1. "Size effect in waveguide-coupled whispering gallery mode disk resonators" Michael Rosenblit, Peter Horak, Ron Folman, Proceedings of SPIE, Optical Trapping and Optical Micromanipulation, Volume **5514**, 530 (2004); Editor(s): Kishan Dholakia, Gabriel C. Spalding.
2. "Chemical solution deposition of nanocrystalline PbSe films: From fundamental studies to applications", M. Shadalov, M. Rosenblit, and Y. Golan, Proceeding of the First International Workshop on Semiconductor Nanocrystals, SEMINANO2005; Volume **1**, 87 (2005); Editor(s): B. Pődőr, Zs. J. Horváth, P. Basa.
3. "Design of a trapping potential for detecting single atoms by microdisk resonator on a chip" Michael Rosenblit, Yonathan Japha, Peter Horak, and Ron Folman Proceedings of SPIE, Volume **6195**, 62 (2006); Editor(s): David L. Andrews, Jean-Michel Nunzi, Andreas Ostendorf

CONFERENCES (2004-2006)

- The International Symposium on Optical Science and Technology, SPIE 49th Annual Meeting, August 2-6, 2004, Denver, Colorado USA, Oral presentation.
- First International Workshop on Semiconductor Nanocrystals, SIMINANO2005, 10 – 12 September 2005, Budapest, Hungary.
- MINERVA Workshop on Quantum Atom Optics, October 30 – November 3, 2005, Eilat, Israel
- Bi-National Israeli-Italian Optronics Workshop, November 30 – December 1, 2005, Beer-Sheva, Israel.
- ISF Workshop on DEICS III and QUDAL, Feb.26 – March 3, 2006, Eilat, Israel

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- Photonics Europe Conference, April 3 – 7, 2006, Strasbourg, France, Oral presentation.
- The Jubilee Nanotechnology Symposium, May 29-31, 2006, Bar-Ilan University, Ramat-Gan, Israel
- XX International Conference on Atomic Physics, July 16-21, 2006, Innsbruck, Austria

PATENTS

6 patents and 2 provisional applications.