

RESUME

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ACADEMIC DEGREES

1976 – Physics Department, Tomsk Polytechnical University, Tomsk, Russia. M.Sc. Thesis: "High-current electron beam propagation across external magnetic field in gas".
1980 – Joint Institute of Nuclear Research, Dubna, Russia. Ph.D. Thesis: "High-power ion beam generation in reflex systems".
1991 – Institute of High Current Electronics, Tomsk, Russia.
D. Sc. Thesis – "Investigation of high power ion beam generation in the modified diode systems" - Submitted.

ACADEMIC APPOINTMENTS

2008 - Professor, Technion, Physics Department, Haifa, Israel
2002–2008 Associate Professor, Technion, Physics Department, Haifa, Israel
1997 – 2002 Senior Research Fellow, Technion, Physics Department, Haifa, Israel
1991 – 96 Research Scientist, Weizmann Institute of Science, Physics Department, Rehovot, Israel
1986 – 91 Head of the High Power Ion Beam Laboratory, Nuclear Research Institute, Tomsk, Russia
1980 – 86 Senior Scientist, Nuclear Research Institute, Tomsk, Russia

RESEARCH INTERESTS

1. Non-stationary current-carrying plasma.
2. Physical processes accompanying high-power ion/electron beam generation.
- 3 Strong shock wave generation using underwater electrical wire array explosions.
- 4 High power microwave generation
5. Design & development of high-power systems; electric, optical & spectroscopic measurements.

TEACHING EXPERIENCE

1988–1990 "Plasma Physics" (graduate level). Physics Department, Tomsk Polytechnical University, Tomsk, Russia.
2000 - Course "Plasma Physics" (graduate level). Physics Department, Technion, Israel.
2002 - Course "Physics 2", "Physics 2L" (undergraduate level). Physics Department, Technion, Israel.
2003 - Advanced students physics laboratory (graduate level). Physics Department, Technion, Israel.
2007 - Course "Physics 1m" (undergraduate level). Physics Department, Technion, Israel.
2008 - Course "Physics 3" (undergraduate level). Physics Department, Technion, Israel.

2010 - Course "Physics 3m" (graduate level). Physics Department, Technion, Israel.

Supervision: 20 Ph.D. students and 26 M.Sc. students

PUBLIC PROFESSIONAL ACTIVITIES

Refereeing:

Scientific Journals: Phys. Plasmas, Phys. Rev., Appl. Phys. Lett., J. Appl. Phys., IEEE Trans. Plasma Sci., European Phys. Journal D., Rev. Sci. Instrum., Diamond and Related Materials, J. Physics D., Physics Letters A, Images in Plasma Physics, J. Vacuum Science & Technology, IEEE Transactions on Nanotechnology.

Granting Agencies: US: Israel Binational Science Foundation, US: Israel Binational Science Foundation/Nuclear Science Foundation, Israel Science Foundation, UK Engineering and Physical Sciences Research Council, European Science Foundation, PAZI, Georgia National Science Foundation, PAZY, KAMIN.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Fellow of the American Physical Society; Senior Member of IEEE, Member of the Israel Physical Society.

Member of the board of the Israeli Plasma Science and Technology Association.

H-index: 29; Citations: 3170

2002 – Visiting Professor at Karlsruhe Institute of Technology, Germany

2014 – Honor Professor at Institute of Applied Science, Mianyan, China

2015 – Thinker Scientist at Deakin University, Australia

2016 – Visiting Professor, Imperial College, London, UK

HONORS

1988 Best scientific research among young scientists, Academy of Sciences, USSR.

1986 Best scientific research, Ministry of Highest Education and Sciences, USSR.

1980, 1982, 1985, 1988 - Best scientific research, Institute of Nuclear Physics, Tomsk, USSR.

2003 Technion team award for development of technologies for defense against terror.

2006 the Henri Gutwirth award.

PUBLICATIONS

Approx. 265 scientific papers (including 8 invited review papers and 9 invited papers) in refereed journals and two chapters in text-books and 28 patents including 5 Israeli patents.

Russian Journals:

Reports of Academy of Sciences, Plasma Physics, Lett. to J. of Technical Physics, J. of Technical Physics, J. of Physics, Quantum Electronics, Experimental Technique and Physics, Elementary Particles and Nuclei.

International Journals:

Phys. Rev. Lett., Phys. Rev. E, Appl. Phys. Lett., Europhysics Lett., Phys. of Fluids, Phys. Plasmas, J. Physics, J. Appl. Phys., Laser and Particle Beams, Nucl. Instr. Meth., IEEE Trans. Plasma Sci., European Phys. J. D., Shock Waves, Vacuum, and Plasma Devices and Operations, IEEJ Trans. on Fundamentals and Materials.

Participation in organizing conferences

- 2001, 2008, 2010** – organization and chairman of the Israeli Conference on Plasma Science and Applications.
- 2002, 2003** – organization and chairman of the Plasma Physics Session of Annual Meetings of Israel Physical Society.
- 2002, 2003, 2007, 2012, 2015** – session chairman of 5th, 6th and 9th Israeli Conference on Plasma Physics and Applications.
- 2007** – sessions chairman, IEEE International Pulsed Power and Plasma Science Conference,.
- 1998, 2008, 2016, 2017** – session organizer and chairman, IEEE International Conference on Plasma Science

Academic public activities

- 2009 – 2012** Chairman of Israeli Plasma Physics and Applications Society.
- 2012** - Board of “Energy” program, Technion
- 2016** – Member of editorial board international journal “Plasma”
- 2012 - 2014** Member of Senate, Technion
- 2013 – 2014** Member of awards committee, Technion

Research Laboratories:

- 2002** Head of the Plasma and Pulsed Power laboratory, Physics Department: a modern laboratory equipped by pulsed power generators and electrical, optical, spectroscopic and x-ray diagnostics.
- 2006** Head of the Pulsed Power Center, Canada Building: a pulsed power laboratory equipped by modern pulsed power generators with output power up to 10^{11} W and microwave tubes.

Research subjects: at present experimental and theoretical research of plasma cathodes, underwater electrical wire explosion, strong shock wave generation, high-power microwave generation is carried out by the group of 16 graduated students and new-immigrant scientists.

Scientific cooperation:

Ecole Polytechnique (France), University of California (USA), University of Illinois (USA), Prinstone University (USA), University of St. Andrews (GB), University of New Mexico (USA), Texas Tech University (USA) Institute of Pulsed Power (Karlsruhe Germany), GSI (Darmstadt, Germany), Nuclear Research Institute (Tomsk, Russia), Istituto per lo Studio dei Materiali Nanostrutturati (Italy), Institute of High Current Electronics (Russian Academy of Sciences), Institute of Hydrodynamics (Russian Academy of Sciences, Lebedev Physics Institute (Russian Academy of Sciences), Weizmann Institute of Science, Tel-Aviv-University, Ben Gurion University, Deakin university (Australia), Imperial college (UK), Ohio University (USA).