



הפקולטה לכימיה
Faculty of
Chemistry

מכון ויצמן Weizmann Institute
למדע of Science
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Professor Yehiam Prior, Dean
Sherman Professor of Chemical Physics

Curriculum Vitae

Education

- 1971 - B.Sc. Hebrew University, Jerusalem (Physics and Math.)
1977 - Ph.D. University of California, Berkeley, Physics (Advisor: Professor E.L. Hahn)
1977 - 1979 Harvard University, Fellow (Postdoc. with Prof. N. Bloembergen)

Academic Employment

- 2000 - WIS, Professor
1992 - Sherman Professorial Chair in Chemical Physics
1986 - 2000 WIS, Associate Professor
1981 - 1986 WIS, Senior Scientist
1979 - 1981 WIS, Fellow

Visiting Appointments

- 1995 **ONERA**, Office National d'Études et de Recherches Aérospatiales,
Paris, France (visiting researcher, 2 months)
1994 **École Normal Supérieure**, Paris, France (visiting Professor, 2 months)
1988-1989 **Bell Communications Research**, New Jersey, USA
(visiting appointment, 3 months)
1988 **Sandia National Laboratory**, Livermore, Ca. USA (visiting appointment)
1987-1988 **Bell Communications Research**, New Jersey, USA (full sabbatical year)
1980, 1981 **Harvard University**, Division of Applied Science, Cambridge, Ma. USA
(visiting summer appointments, 3 months)

Membership in professional societies

- Fellow Optical Society of America
Member American Physical Society
Member Israel Chemical Society

Professional Public Service (For details, see page 11)

- 2008 Optical Society of America Foundation, Board of Directors,
2006 - Head, Nanotechnology Initiative program, Weizmann Institute
2006 - Alternative Energy Research Initiative (WIS), Steering Committee
2006 - Dean, Faculty of Chemistry, WIS
2004 - 2006 Chair of the Scientific Council, WIS
2004 - 2006 Optical Society of America, Board of Directors,
2004 - 2006 Optical Society of America, Chair, International Council
1998 - 2002 European Physical Society, Quantum Electronics and Optics Division,
Board of Directors

1996 - 2000 Head, Division of Information Systems, WIS
1993 – 2001 Yeda (WIS IP commercialization arm) Board of Directors
1989 - 1995 Chairman, Department of Chemical Physics, WIS

Industrial Experience

2001 - 2004 **Orbotech, Yavne**, Consultant, Microelectronics, Laser Material Processing of printed circuit boards
1998-2000 **ESC, Yokneam**, Consultant, Laser material Processing and Medical Applications of Lasers
1994 – 1998 **SURTECH, Haifa**, a Technion incubator startup company, Friction reduction and efficient lubrication by laser surface texturing
1990 - 1998 **Orziv, Raanana**, Co-founder (with Dr. Ziv Karni). Laser processing of diamonds and other material processing applications. The company attained leadership status recognized by the international diamond processing community, and sold hundreds of machines world wide.
1988 - 1990 **Bell Communication Research, New Jersey**, Optoelectronics
1985 - 1986 **Tecnir, Tel Aviv**, Consultant, High power industrial CO2 lasers
1982 - 1985 **Laser Industries, Tel Aviv** Consultant, Medical applications of lasers

Competitive Grants Awarded

Israel Science Foundation (multiple)
Israel-us Binational Science Foundation (multiple)
Israel Ministry of Science (multiple)
France Israel AFIRST Program
BMBF - Bundesministerium für Bildung und Forschung (The German Federal Ministry of Education and Research) (multiple)
Volkswagen Foundation
Israel Diamond Institute
MAGNET program (LESSED, diode pumped lasers consortium)
Minerva Foundation
James Franck Program of the Minerva Foundation,
Horovitz Foundation
Austrian Science Foundation
EU ERA Nano program

Scientific Reviewing

- **Grants evaluation committees**
ISF Israel Science Foundation Chemistry, Physics, Legacy programs
MOST Israel Ministry of Science, Chair, committees on Infrastructure, Optical sciences
AFIRST (French Israeli Association for Research in Science and Technology) Chair, committee on Nonlinear Optics
ISF Alon Fellowship committee
EU 5th Frame Quantum information Processing
Minerva multiple

- **Conference organizing and scientific committees**

CLEO Conference on Lasers And Electro Optics, program committees
IQEC International Conference on Quantum Electronics, program committees
FRISNO French Israeli Conference on Quantum and Nonlinear Optics, Co-Founder of the series, and Conference Chair
FiO Frontier in Optics, Optical Society of America, program committees
ILS International Laser Science Conference, American Physical Society), program committees

- **Journal Reviewing**

Physical Review Letters, Physical Review, Journal of Chemical Physics, Chemical Physics letters, Optics Letters, Optics Express, IEEE Journal of Quantum Electronics, Nanoletters, Applied Optics, Journal of the Optical Society of America, EuroPhysics Letters,

- **Proposal reviewing**

Israel Science Foundation, Israel US Binational Science Foundation, German Israel Foundation, EU 5th and 6th programs, US National Science Foundation, US air force, German DFG, German BMBF

Students and postdocs supervised

Over 30 students and postdocs have obtained their Ph.D. and M.Sc. degrees in my research group. Currently, the group includes four Ph.D. students, two M.Sc. students two rotation students (first year MSC students on a 12 week assignment) and one Senior Research Fellow.

Courses taught (graduate level)

Nonlinear Optics
Quantum Electronics
Laser Physics and Applications
Nonlinear Laser Spectroscopy

Areas of Scientific Interest

Nonlinear and ultrafast optics
Light matter interaction,
Noise in lasers
Diamond growth
Diamond processing
Near Field Optics
Laser Material Processing
Molecular alignment in strong laser fields
Nano-Science and Technology

Personal Data

Date of Birth August 27, 1947
Marital Status Married to Drora, four daughters, five granddaughters.
Military Service 1965-1968, Israeli Army, Paratroopers, Lieutenant

Invited Talks in Conferences (Last Five Years)

1. Y. Prior, *Laser material Processing*, ICOLS 2005, Dehradun, India (2005)
2. Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior. *Molecular alignment, wavepacket interference and isotope separation via rotational revivals*, 8th French Israeli Symposium on Nonlinear and Quantum Optics, Ein Bokek, Israel (2005).
3. I.Sh. Averbukh, Sharly Fleischer, and Yehiam Prior, "Isotope-selective alignment of molecules", 36th Winter Colloquium on The Physics of Quantum Electronics, Snowbird, Utah (January 2006)
4. Sharly Fleischer, I. Sh. Averbukh and Yehiam Prior. "*Isotope-selective control of molecular alignment*", Laser Optics International Conference, St.-Petersburg, Russia (June 2006)
5. I.Sh. Averbukh, Sharly Fleischer, and Yehiam Prior, "*Isotope-selective laser molecular alignment*", Coherent Control of the Fundamental Processes in Optics and X-ray-Optics (CCFP'2006), Nizhny Novgorod, Russia (June 2006)
6. I.Sh. Averbukh, Sharly Fleischer, and Yehiam Prior, "*Isotope-selective laser molecular alignment*", 15th International laser physics workshop, Lausanne, (LPHYS'06), (Lausanne, July, 2006)
7. I.Sh. Averbukh, Sharly Fleischer, and Yehiam Prior, "*Spinning molecules selectively*", 37th Winter Colloquium on The Physics of Quantum Electronics (Snowbird, Utah - January, 2007)
Plenary talk
8. M.Y. Vilensky, Y. Prior, and I. Sh. Averbukh, "*Sisyphus-like cooling in a bistable optical resonator*", FRISNO-9 Les-Houches, France (February 2007)
9. Y. Prior, Sharly Fleischer and I.Sh. Averbukh, "*The art of Spinning Molecules*", 11th Meeting on Optical Engineering and Science, OASIS, Tel Aviv (March 2007)
10. Yuri Paskover, I.Sh. Averbukh and Yehiam Prior, "*Single-Shot Two Dimensional Time Resolved Four Wave Mixing*", TRVS-XIII, Time Resolved Vibrational Spectroscopy, Munich, Germany (June 2007)
11. Yehiam Prior, Sharly Fleischer, and I. Sh. Averbukh, "*Strong-field selective manipulations in molecular mixtures*", 17th International Laser Physics Workshop (LPHYS'08), Trondheim, Norway, (June 2008)
12. I.Sh. Averbukh, Sharly Fleischer, and Yehiam Prior, "*Selective Rotational Control in Molecular Mixtures*", VIth Congress of the International Society for Theoretical Chemical Physics Vancouver, Canada, July 2008)
13. Yehiam Prior, Kaiyin Zhang and Alexander Milner, "*Floating Tip Nanolithography*", Photonics 2008, Delhi, India (December 2008)
14. Yehiam Prior, Sharly Fleischer and Ilya Averbukh, "*Molecular Alignment – What Is It Good For?*" 74nd meeting of the Israel Chemical Society, Tel-Aviv (February 2009) **Plenary Talk**
15. A. Shalit, Y. Paskover, Y. Prior, Combined Time Frequency Detection by Single Shot Four Wave Mixing, **FRISNO-10**, Ein Gedi, Israel (February 2009)
16. Yehiam Prior, Nanolithography, **International Workshop on Nanophotonics and Biophotonics**, Recife, Brazil (April 2009)
17. Yehiam Prior, Specificity and symmetry in laser induced rotational alignment, **Gordon Research conference on Coherent Control**, New Hampshire, USA (August 2009), Invited
18. Sharly Fleischer, Yuri Khodorkovsky, Yehiam Prior, and Ilya Sh. Averbukh, Laser-controlled molecular propeller, **18th International Laser Physics Workshop (LPHYS'09)**, Barcelona, Spain (July 2009)
19. Andrey Shalit, Yuri Paskover, and Yehiam Prior, Single Shot, Combined Time Frequency Four Wave Mixing, **18th International Laser Physics Workshop (LPHYS'09)**, Barcelona, Spain (July 2009)

PROFESSIONAL PUBLIC SERVICE

At the Weizmann Institute of Science

- 1983-1985 **Member**, Faculty of Chemistry Study Board
- 1985-1989 **Member and Chair**, Scientific Council Services Committee
A committee which oversees, on behalf of the Scientific Council, all administrative and technical services given to Institute Scientists. In particular, the Committee deals with infrastructure services
- 1989-1995 **Head**, Department of Chemical Physics
- 1993-2001 **Member**, Board of Directors of YEDA
Yeda is the Weizmann owned company dealing with the commercialization of Weizmann's Intellectual Property. The work involved IP, Patents, applied research and interaction with Industry
- 1996 – 2001 **Head**, Division of Information System
The Division is responsible to all aspects of both Scientific and administrative computing at Weizmann, including the computing center. I was in charge, among other tasks, of upgrading the entire communications network, to the selection and installation of a new Human Resources program (Oracle) and to the installation of a new Internal Services system.
- 2002-2004 **Deputy Chair**, Scientific Council, Chair of Amitim promotion committee. This is an elected position. The Amitim (fellows) are the research support personnel, PhD holders who are part of the Infrastructure.
- 2004-2006 **Chair**, Scientific Council, and Committee hiring new Senior Scientists. This is an elected position. Head of the council is more or less the Institute Rector (but with reduced functions). The committee is the final authority on hiring new scientists, and as such bears the ultimate responsibility for their scientific qualifications.
- 2006- **Dean**, Faculty of Chemistry.
I serve, ex-officio, as head of several research centers and programs: the Weizmann Nano Initiative, and am a member of the Steering Committee of AERI, the Alternative Energy Research Initiative.

Other functions at the Weizmann Institute

- 2005 **Chair**, committee that looked into the option of setting up a medical school
- 2008 - **Initiator (with others) and member** of the Steering Committee, Weizmann-CNRS Nano Bio collaboration.

Other functions in Israel

- **Member** of many evaluation committee of the Israel Science Foundation
 - **Member**, often chair, of many evaluation committees of the Ministry of Science
- 2001** **Member**, University Inter-senate committee
A committee that dealt with the implementation of the Maltz report on the structure of Israeli Universities

International Public Service

- 1998 - 2002 **Member**, Board of Directors, European Physical Society, Quantum Electronics and Optics Division,
- 2004 - 2006 **Chair**, International Council, Optical Society of America
- 2004 - 2006 **Member**, Board of Directors, Optical Society of America
- 2008 - **Member**, Board of Directors, Optical Society of America Foundation