



הפקולטה לכימיה
Faculty of
Chemistry

מכון ויצמן Weizmann Institute
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Professor Yehiam Prior
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

- 2009 – 2012 **École Normal Supérieure**, Cachan, France (visiting Professor, summers)
1995 **ONERA**, Office National d'Études et de Recherches Aéronautiques,
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)

- 2014 - Associate Editor, OPTICA
2008 - 2011 Optical Society of America Foundation, Board of Directors,
2006 - 2014 Head, Nanotechnology Initiative program, Weizmann Institute
2006 - 2012 Alternative Energy Research Initiative (WIS), Steering Committee
2006 - 2012 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**, Co-founder with others. 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 (LESHED, diode pumped lasers consortium)
Minerva Foundation
James Franck Program of the Minerva Foundation,
Horovitz Foundation
Austrian Science Foundation
EU ERA Nano program
DFG (the German Science Foundation)
ICORE – center of excellence
FTA – Focal Technological Area (Advanced grant to a nanotechnology consortium)

Scientific Reviewing

- **Grants evaluation committees**
ISF Israel Science Foundation Chemistry, Physics, Legacy programs, multiple
MOST Israel Ministry of Science, committees on Infrastructure, Optical
Sciences, multiple
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
ERC Starting grant evaluation committee

- **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, ACS Nano, Journal of Applied Physics, Applied Physics Letters, Applied Optics, Journal of the Optical Society of America, EuroPhysics Letters, PCCP, Optica, Nature, Science, etc.

- **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, Canada Research Council, Danish Science Foundation, ERC, etc.

Students and postdocs supervised

Over 35 students and postdocs have obtained their Ph.D. and M.Sc. degrees in my research group. Currently, the group consists of three students, and two postdocs, two new postdocs are scheduled to join before the end of the year.

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
Diamond growth and Laser Diamond processing
Near Field Optics
Laser Material Processing
Molecular alignment in strong laser fields
Nano-Science and Technology
Plasmonics

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- 2012 **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.
- 2006- 2014 **Head of WINI** – the Weizmann Institute Nano Initiative
- 2013 - **Member** of the committee of 12 (The Institute wide promotions committee. This is an elected position.

Other functions at the Weizmann Institute

- 2005** **Chair**, committee that looked into the option of setting up a medical school
- 2008 -** **Initiator and head** of the 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 - 2009 **Member**, Board of Directors, Optical Society of America Foundation
- 2014 - **Associate Editor**, OPTICA

Invited talks in international conference (since 2010)

1. Yehiam Prior, Sharly Fleischer, Atalia Birman, and Ilya Sh. Averbukh, "Molecular Alignment – Small and Large, Slow and Fast". **Winter Colloquium on the Physics of Quantum Electronics, Snowbird**, Utah, (January 2010) **Invited**
2. Yehiam Prior and Alexander Milner Floating Tip Nanolithography, **19th International Laser Physics Workshop (LPHYS'09)**, Foz de Iguacu, Brazil (2010), **Invited**
3. Ilya Sh. Averbukh, E. Gershnel, Yu. Khodorkovsky, J. Floss, S. Fleischer, Y. Prior, Molecular propeller, molecular frisbee, and all that ... **Israel Chemical Society**, Tel Aviv (February 2010) **Invited**
4. Yehiam Prior, Sharly Fleischer, Atalia Birman, Yuri Khodorkovsky, Ilya Sh. Averbukh , Laser Induced Molecular Alignment Small and Large, Slow and Fast, **Latin America Optics And Photonics Conference (Laop)**, Recife, Brazil (September 2010) **Invited**
5. Yehiam Prior, Nanolithography, **Photonics2010**, Guwahati, India, December 2010, **Invited**
6. Yehiam Prior, Modern Methods in Laser Spectroscopy , **Fifth Erasmus Mondus Summer School on Molecular Nano- and biophotonics**, Frejus, France (June 2011) **Invited**
7. Yehiam Prior "Four Wave Mixing Spectroscopy – a Mirror in Time" **Nonlinear Optics - East West Reunion**, Suzdal, Russia, (October 2011) **Invited**
8. Adi Salomon, **Yehiam Prior**, Marcin Zielinski, Radoslaw Kolkowski and Joseph Zyss, "Nonlinear Optical Response of Nanohole in Metallic Films", **Israel Chemical Society annual meeting**, Israel (February 2012), **Invited**
9. Yehiam Prior, Nonlinear Laser Spectroscopy, **Sixth Erasmus Mondus Summer School on Molecular Nano- and biophotonics**, France (June 2012) **Invited**
10. O. Korech, I.Sh. Averbukh, U. Steinitz, R.J. Gordon, and Y. Prior, "Unidirectional molecular rotation measured by the rotational Doppler effect" **19th International Laser Physics Workshop (LPHYS'11)**, Calgary, Canada (July 2012), **Invited**
11. A. Salomon, M. Zielinski, R. Kolkowski, J. Zyss, and Y. Prior "Size resonances and hybridization of metallic nano-cavities" **19th International Laser Physics Workshop (LPHYS'11)**, Calgary, Canada (July 2012), **Invited**
12. Science and Nanoscience (**IIMMN-2013**), Cochin, India, (January 2013) **Invited**
13. Yehiam Prior "Light-matter surface interactions on the nano scale", **Indo-Israel Meeting on Materials for Nanoscience, Biosensors and Energy**" Bangalore, India (February 2013) **Invited**
14. Salomon Adi, Yehiam Prior, Radoslaw Kolkowski and Joseph Zyss, From individual to strongly coupled nanocavities, **FRISNO 12**, Ein Gedi, Israel (February 2013) **Invited**
15. Yehiam Prior "Strong field laser matter interactions" **20th International Laser Physics Workshop (LPHYS'14)**, Prague, Czech Republic, (July 2013), **Invited**
16. Yehiam Prior, Adi Salomon, Radoslaw Kolkowski and Joseph Zyss, From Individual to Coupled Metallic Nanocavities, **SPIE Optics and Photonics**, San Diego, USA (August 2013) **Invited**
17. Yehiam Prior, Light Matter Interaction And Laser Ablation, Light matter interaction symposium, Mumbai, India (October 2013), **Invited Tutorial**
18. Yehiam Prior, Strong coupling in Metallic nanocavities, Israel Chemical society, Tel Aviv,(2014) **Invited**
19. Yehiam Prior, Long range coupling of metallic nanocavities, NanoIsrael 2014, Tel Aviv (2014), **Invited Key Note**

20. Yehiam Prior, A. Salomon, M. Fedoruk, J. Feldmann, R. Kolkowski and J. Zyss, Nonlinear optical response and long range coupling of metallic nanocavities, 21st International Laser Physics Workshop (LPHYS'12), Sofia, Bulgaria (July 2014), **Invited**
21. Yehiam Prior, Nonlinear Optical and Plasmonic interactions in metallic nanostructures, ChinaNano2015, Beijing, (August 2015) **Invited Key Note**
22. Yehiam Prior, Strong Field Coupling in Plasmonic Nanocavities, 22d **International Laser Physics Workshop (LPHYS'15)**, Shanghai, China (August 2015), **Invited**
23. G Karras, E Hertz, F Billard, B Lavorel , J-M Hartmann , O Faucher, E Gershnel, Yehiam Prior and I Sh Averbukh, Orientation and Alignment Echoes in Laser Excited Molecular Gases, 22d **International Laser Physics Workshop (LPHYS'15)**, Shanghai, China (August 2015), **Invited**
24. Yehiam Prior, G Shalem, E Almeida, Subwavelength Nonlinear Phase-Control and Anomalous Phase-Matching in Plasmonic Metasurfaces, 22d **International Laser Physics Workshop (LPHYS'15)**, Shanghai, China (August 2015), **Invited**
25. Yehiam Prior, Plasmonic interactions in metallic nanocavities, **The third China Israel workshop on Nano Science and Nano Technology**, Kaifeng, China (August 2015) **Invited**
26. **Yehiam Prior**, Laser Ablation- How Fast is Fast? and How Small is Small, Annual meeting of Laser material processing, Israel IEEE, Tel Aviv (November 2015) **Invited**